

THE LARYNGOSCOPE.

VOL. XIV.

ST. LOUIS, MO., JULY, 1904.

No. 7.

ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding
that they are contributed exclusively to THE LARYNGOSCOPE.)

SYMPOSIUM:

NEUROSES OF THE UPPER AIR TRACT, EXCLUSIVE OF THOSE DUE TO DIPHTHERIA AND ORGANIC DISEASE.*

Neuroses of the Nose....G. HUDSON-MAKUEN, M.D., Philadelphia.

Neuroses of the Pharynx.....F. E. HOPKINS, M. D., Springfield.

Neuroses of the Larynx.....EMIL MAYER, M.D., New York.

REFLEX NEUROSES OF NASAL ORIGIN.

BY G. HUDSON MAKUEN, M. D., PHILADELPHIA.

Professor of Defects of Speech in The Philadelphia Polyclinic and College for Graduates in Medicine;
Laryngologist to St. Mary's Hospital and the Frederick Douglass Memorial Hospital,
Philadelphia.

The relation of intranasal disease to certain pathologic conditions of the nervous system has been the subject of careful study and much speculation on the part of the rhinologist for many years, and even a cursory review of the literature would occupy more time than I have at my disposal. That it has long been a subject of interest even outside the realm of any single specialty is shown by the scholarly investigations of John N. Mackenzie, who gives ample proofs of the fact that the fathers in medicine, centuries before the advent of the modern rhinologist, plainly recognized the interdependence of certain nasal and nervous diseases. Neuroses of nasal origin have been divided into two general classes, the sensory and the reflex neuroses. The former class consists chiefly of disturbances of olfaction, anosmia, hyperosmia, and parosmia, and of disturbances of sensation, anæsthesia, hyperæsthesia and paræsthesia.

* Opening the Discussion on this Subject at the 26th Annual Meeting of the American Laryngological Association, at Atlantic City, N. J., June 8, 1904.

Anosmia or absolute loss of smell frequently occurs and it may be due to a variety of causes. Zwaardemaker distinguishes three kinds. The respiratory, the gustatory and the essential. In the respiratory form odoriferous particles are prevented from coming in contact with the mucous membrane of the nose by obstructions in the anterior nares, while in the gustatory form the choanæ are impervious to these particles. Essential anosmia is that form in which the epithelium is affected, or the nerve trunks and bulbs are either diseased or altogether absent.

According to Kundrat congenital anosmia is not very rare. He reports a case of Heshels in which there was an entire absence of the olfactory nerve, and in fact of all the nerves of the nose. The larynx and genital organs were poorly developed and the testicles were as small as beans. These are interesting observations as showing the developmental relation between the nose, larynx and genitalia.

Cases of senile anosmia are of occasional occurrence, and we have also toxic anosmia following the infectious diseases. Influenza and acute coryzas are frequent causes. The introduction of chloroform, ether, cocaine, nasal douches, and even water may affect temporarily the sense of smell. Graves reports a case of permanent anosmia by drawing off a foul pond. This was probably the result of over excitation of the olfactory nerve. The nostrils in some cases seem to become inured to an odor in somewhat the same manner as the auditory nerve grows accustomed to violent excitation. Several cases of traumatic anosmia have also been reported, resulting from gun shot wounds and falls upon the occiput, in which there were fractures of the ethmoid and other bones of the cranium.

Basic tumors of the brain, meningitis and tabes have been mentioned as causes of anosmia, and rheumatism may affect the olfactory nerve. A case of left sided loss of smell with aphasia has also been reported. Hysteria in my experience is frequently associated with recurring attacks of anosmia and agnosia. Absence of smell for certain special things is not an unusual occurrence.

Hyperosmia or a genuine hyperæsthesia of the sense of smell may be a forerunner of anosmia. It is often due to an excessive irritation of the olfactory nerve. Certain toxic substances such as strychnia, and the insufflation of morphia, according to Fröhlich, may cause this disturbance of smell. It occurs with certain odors only, and it is increased in hysteria and neuresthenia. One patient could not bear the smell of meadows, and another could not read a fresh newspaper because the printers ink caused him to have disagreeable olfactory sensations.

Parosmia or paræsthesia of the sense of smell is of frequent occurrence, and the odor is almost always of a disagreeable character. It may be due to constitutional conditions, such as give rise to digestive disturbances or it may be the result of local conditions such as carious teeth, ozena, or suppurations in the nasal and accessory cavities. Zarnico reports a case in point of a woman who for years had been regarded as a hypochondriac because she complained of an unpleasant odor with no apparent cause, until finally an empyema of the antrum was discovered, the opening of which disclosed large quantities of offensive pus, and the proper treatment of which entirely removed the disagreeable odor. This would seem to emphasize the importance of a careful rhinologic investigation in all cases presenting these symptoms.

Parosmia is occasionally found associated with chronic nasal catarrh, especially of the hypertrophic form, and influenza is also a frequent cause. Onodi reports two cases of physicians having influenza of a severe type and complaining of such odors as pitch, shellac, sulphur and cadavers. Intermittent parosmia is sometimes found in the aged. Parosmia occurs occasionally in tabes, and it is said to be an aura of epilepsy. Curious reflex disorders have accompanied anomalies of olfaction.

Kussmaul in his celebrated book "Disorders of Speech" reports a case of a man, 65 years of age, whose whole life had been devoted to severe intellectual work, and who one day jumped up from his desk exclaiming, "I smell sulphur. I have had a stroke," and thereupon collapsed and from that time on had verbal amnesia. Sander reports cases of epilepsy in which an awful odor preceded and continued throughout the attack, and in which gumatous nodes and nodules were subsequently found in the brain and olfactory nerves. Féré, Binswanger, Growers and others mention cases of epilepsy preceded by olfactory sensations in which no anatomical lesions could be discovered.

Anæsthesia, hyperæsthesia and paræsthesia of the respiratory regions of the nostrils may also exist. This is well illustrated in making local applications to the mucous membrane and in making examinations with the probe. One patient will endure the most drastic measures while another will flinch at the slightest interference. Sneezing, cough and asthmatic breathing are the usual reflex symptoms of hyperæsthesia of the mucous membrane. An example of a paræsthetic condition of the nasal mucous membrane is a sensation of fullness or occlusion which occasionally occurs when the nostrils are perfectly free. Hysteria is usually a concomitant of this condition.

In reference to the second division of my subject, namely, reflex nasal neuroses, I confess that I have always been more or less skeptical, and I have felt that the rhinologist, like his neighbor the ophthalmologist and gynecologist, has found in many instances that which he most desired to find and he has allowed his enthusiasm to carry him rather too far along these interesting lines. However, I have been entirely willing to indulge my colleagues in their speculations, and I have occasionally taken a hand myself because I do not see that any special harm can come from them, and to be quite frank I believe much good has come from them. The operative measures suggested for the relief of nasal reflex neuroses have been as a rule of such a character that if they do not cure the disease they will at least add to the comfort and happiness of the patient in other ways and render him less liable to future respiratory troubles of various sorts.

I am of the opinion that the nervous symptoms which occasionally follow operations in the nasal cavities are the result of a faulty technique, such as a lack of the necessary antiseptic precautions, and not a result of the operation itself. In speaking of operations, however, what shall we say of the remarkable report of Alexander Francis of 402 cases of asthma, 346 of which had no nasal disease at all and of these only eight were not benefited by cauterization of the nasal septum (a doubtful expedient it seems to me under any circumstances.) He claimed better results from his nasal treatment of those having no intranasal disease than from those having intranasal disease. Of course there may have been in the mucous membrane of the septum a condition such as B. Lewis reports to have found in the mucous membrane of the lower turbinal of a patient having severe nervous symptoms, namely, a nerve having a proliferation of fibers and situated very near the surface. In one case there were 110 fibers and in another 50, and all the symptoms promptly ceased with the excision of these areas. Another excuse for the cauterization of apparently healthy nasal mucous membrane has been advanced. It is said that if the irritation caused by operative interference within the nasal cavities can be held responsible for reflex disturbances in remote organs, may not a similar irritation be regarded as curative by its revulsive action, and may we not, therefore, use the electric cautery upon the mucous membrane in the same manner as we use a counter irritant upon the skin.

My only untoward nervous symptom in a somewhat large practice of intranasal surgery occurred recently in a case of epilepsy, and I desire to report it in this connection because of its direct bearing upon the general subject. In March of the present year during one of

my clinic hours at St. Mary's Hospital, a well dressed young man was brought to the accident ward by the police patrol with the history of having had a fit on board a trolley car, and the resident immediately brought him to my clinic for nasal examination. I found an irregularly shaped septum with marked pressure in the region of the posterior 3rd of the middle turbinal on the left side and a marked obstructive spur in the anterior portion of the right nostril. In addition, of course, there was present a decided nasal and post-nasal catarrh.

I advised local treatment to be followed by operative measures for the correction of the septal irregularities in the hope of ultimately relieving or curing the epilepsy. The attacks had occurred only about once a year. It was decided to take my advice in the matter and accordingly the treatment was soon after begun. In due course of time I removed a large exostosis of the septum which was pressing firmly against the left middle turbinal. As the patient lived at some distance from any emergency aid I decided to put in a thin piece of the prepared aseptic sponge devised by Dr. W. K. Simpson to prevent the possibility of an annoying hemorrhage. He returned on the second day following the operation and reported having had two slight epileptiform attacks. Upon examining the field of operation I found from the swelling of the sponge and surrounding tissue a considerable more pressure than I had anticipated and I at once removed the packing. There have been no subsequent attacks. I must say that I was rather pleased than otherwise at the fact of the excitation of the attacks, because it seemed to indicate that intranasal pressure might have been a causal factor in the disease and that we might at least hope for a cure by a removal of this pressure.

We are familiar with the so-called "reflex arc." It consists in its simplest form of an afferent sensory nerve, an efferent motor nerve and a ganglionic or cerebrospinal center, controlled to some extent by the higher cortical centers of the brain. The afferent nerve carries the impulse to the central station, from which it may be reflected to any part of the body having efferent connection. The reflex may be regarded as physiologic when the entire circuit, including its cerebral connection is in good repair, and it is pathologic when the circuit or any part of it is not in good repair. Moreover, the impulse may begin in the terminal filaments of the afferent nerve constituting what is known as a peripheral impulse, or it may begin in the cerebral cortex and thus become a central impulse. A draught of cold air on the back of the neck followed by sneezing is an example of the former, and the act of blushing attendant upon a confusion of ideas serves as an illustration of an impulse of central origin.

From the foregoing it appears that a pathologic reflex always presupposes one of two things; either a disturbance in some portion of the reflex arc or some unusual peripheral irritation. A disturbance in the reflex arc renders the nervous system as we say "unstable" while it is quite possible, that a peripheral irritation within the nostrils or elsewhere may be the origin of a pathologic reflex act we must keep in mind the fact that sooner or later we have to deal with an unstable nervous system.

The reflex neuroses that are of undoubted nasal origin, and that seem to rest upon a firm theoretic basis, are sneezing, cough, spasm of the glottis and asthma, and the nerves through which the impulses pass in these neuroses are the anterior ethmoidal, and the posterior nasal branch of the 2nd division, and a branch of the dental nerve of the 3rd division of the trigeminus. Sneezing as it ordinarily occurs is probably a physiologic reflex and serves as a means of expelling extraneous irritating particles from the nostrils and probably also as a warning in case of sudden exposure to draughts of air. It may, however, become pathologic when any portion of the arc through which the impulse passes becomes overwrought or hypersensitive. This reflex may be produced in many instances from any portion of the nasal mucous membrane, but there are generally points of special susceptibility, which points in my experience are by no means uniformly fixed as to location, but they vary in different individuals. Moreover, the sneezing reflex may be extranasal in its origin, as for instance, that which comes from a ray of bright light suddenly striking the eye, in which case the impulse is transmitted from the ciliary through the nasal to the ethmoidal nerve, and pressure upon superficial portions of the latter will often prevent the sneezing. Irritation of certain portions of the scalp will also sometimes produce paroxysms of sneezing.

The two most important and distressing symptoms of intranasal irritation are, in my experience, cough and asthma, and I mention them together because they are closely allied both anatomically and etiologically. Francois Frank has shown experimentally that nasal irritation will produce spasm of the glottis and bronchi, but as Friedrich has aptly suggested in order to be quite sure of our diagnosis we must have absolute clinical proof that the symptoms can only come from the nasal mucous membrane, that they can be completely arrested by anæsthesia of the parts, and that they can only be finally cured by direct treatment of the offending area. We all of us doubtless have had cases of cough and asthma that have given these three clinical proofs of diagnosis. I have one under observation at the present time, and another which offers some difficulties

of diagnosis because it is complicated with albuminuria. I am still in doubt whether the asthma is a reflex of the nasal or the renal disease, or whether both the asthma and renal disease may not be reflex symptoms of the nasal irritation. That the latter is a possible solution of the case is suggested by the fact that the nasal disease preceded both the other conditions and its amelioration by local treatment is promptly followed by fewer attacks and less albuminuria.

Closely related to nasal cough and asthma we must mention spasm of the glottis. That this affection may be of nasal origin has been shown experimentally, and proofs of the fact are not wanting in clinical practice. An adult patient of my own, for example, will invariably produce an inspiratory crowing sound upon the application of a probe to certain portions of the nasal mucous membrane. The impulse in these cases is probably transmitted directly through the sphenopalatin nerves to the medulla, and thence reflected backward through the vagus to the respiratory muscles. This probably also explains certain phonatory disturbances that often occur reflexly in connection with nasal diseases.

Farquer Matheson claims that stammering in early life is due in most cases to diseases of the nasal cavities and he reports several cases in which the removal of adenoids completely cured the stammering. After referring to the neurotic temperament of stammerers he concludes that one of the following conditions is a constant factor, namely hypertrophied turbinals, adenoids and chronic rhinitis. I am almost prepared to endorse these statements, for a careful study of upwards of 1,000 cases of all forms of defects of speech has led me to conclude that the neurotic temperament is a constant factor, and that 98% of all cases have some form of intranasal disease. Notwithstanding these facts it must be admitted that we have few positive indications that defects of speech are due to intranasal disease. Matheson reports several cases cured by the removal of adenoids, and I myself have reported a case in which a severe form of stammering never recurred after the removal of one of these growths, but I confess I could not be sure that the operation cured the stammering. Indeed I am of the opinion that it did not and could not, for the disorder was of several years' duration and even if the adenoid growth had been the original cause of the stammering, some years previously, the stammering had now become a nerve habit, and the removal of the growth, although necessary to a cure, should scarcely be regarded as sufficient. What I have said of course does not preclude the possibility and even the probability that intranasal disease is a cause of stammering and other forms of defective speech. Indeed, I incline strongly to this view,

but to be quite sure of our ground in reference to the etiology of this affection, as is the case also to some extent with cough, asthma, chorea or any other neurosis, we must get hold of our case before the disease has become a nerve habit, or before certain complications arise which tend to perpetuate it even after the original cause has been removed.

In my case a vigorous campaign against the stammering habit was being carried on before and after the operation, and this was probably a greater factor in the cure than was the operation itself. My own opinion, however, is that the adenoid was probably one of the causes of the stammering and that its removal was a necessary factor in the successful treatment of the case. Of all the stammerers that I have seen I can recall but one or two that were brought to me at the very inception of the trouble. The old belief so common among the laity, and even among certain physicians themselves, that children "grow out" of these nervous affections is responsible for much neglect and unnecessary suffering.

That hay-fever is a neurosis, and that it has its origin in the nasal cavities, at least in some cases, have come to be fairly well established facts, but that the morbid condition within the nostrils is only one of a series of causal factors in the disease is also well understood. The neurotic habit, the psychic expectancy and a certain irritating material in the atmosphere must be reckoned among the causal factors.

Orbital neuralgias are common in connection with nasal and accessory sinus disease, but the close proximity of these organs may account for the pain in the acute cases. Aural disturbances are also frequently reflected from the nasal cavities. I had a somewhat painful proof of this fact some years ago in my own person. A unilateral intranasal pressure caused, among other things, distressing sensations in the ear of the affected side and they were occasionally attended by slight vertigo, all of which symptoms were promptly and permanently corrected by the removal of a septal spur. Several similar cases occurring in my own practice have convinced me that vertigo should be classed among the possible nasal neuroses.

Although cases of epilepsy and chorea have been reported as cured by nasal surgery I am not prepared to class them among the nasal neuroses. That the choreic twitchings of the muscles of the face and eyes in neurotic children are reflex conditions arising from nasal irritation I have many times proven to my own satisfaction.

The reflex influence of nasal irritation is often manifested in disturbances of respiratory rhythm. This is well illustrated in examinations of the mucous membrane with a probe and in making

topical applications. We ask our patients to breathe rhythmically but they find it quite impossible to do so. Francois Frank has reported asphyxia in animals by cauterization of the nasal mucous membrane. Retardation of the pulse, cardiac arrhythmia and even syncope may result from reflex nasal irritation. Every rhinologist has observed these symptoms attendant upon minor operations within the nose. We sometimes attribute it to cocaine poisoning, or to psychic influences, but I am inclined to think that it is generally a reflex manifestation of the operation itself. W. H. Good and W. G. B. Harland have recently reported cases of "Apnoea and Cardiac Inhibition in Operations of the Respiratory Tract."

Vasomotor disturbances both in the nose itself and in distant organs follow irritation of the sensory nerves of the nose. Vasomotor coryza, hydroporrhea and possibly also hay fever may be explained on this theory.

It is not always possible to draw the line between certain reflex nasal neuroses and those due to imperfect oxidation of the blood through faulty respiration. As Jacoby has pointed out, nasal occlusion, whether partial or complete, may result in an accumulation of carbonic acid gas in the brain and especially in the respiratory centers of the medulla and thus produce neuroses of a grave character. Moreover, the intimate relation which exists between the lymphatic system of the nasal mucous membrane and those of the dura mater and the arachnoid space makes it possible that direct cerebral infection may take place through these channels, and in this way Guye of Amsterdam has explained that complex of mental symptoms which he so aptly calls aprosexia. In a recent paper I reported a case of stammering in an aprosexic youth of 15 having empyema of both antra, and his condition seemed best explained by the theory of cerebral absorption of toxic material through the lymph channels.

NEUROSES OF THE PHARYNX.*

BY F. E. HOPKINS, M. D., SPRINGFIELD, MASS.

The functions of the pharynx are so many and so complex including as they do respiration, deglutition, phonation and audition, that it is not surprising that they are occasionally interfered with by nervous disturbances. The wonder is that such neuroses are not of more frequent occurrence. The pharynx is a single tube sub-way, providing transit facilities for freight in one direction while the lightest and swiftest traffic moves in the opposite. It is not strange that the system of signalling at times fails to work with absolute perfection, nor that the signals of danger and distress sometimes appear at points removed from the scene of action. The control of this complexity of function is amply provided for in an intricate nerve supply which includes, besides small branches, the glosso-pharyngeus, pneumogastric and spinal accessory with free interchange of fibers between the three, and again with the sympathetic, and a distribution of branches from ganglionic centers to other regions. This interchange of communication, with its various ramifications, furnishes the necessary conditions for reflexes in case of local lesions; and where functional activity is so great, and pathological invasion frequent, neuroses must occur.

In the consideration of this subject, paralysis due to any central lesion of the nervous system, or to diphtheria, is to be excluded. Neuroses of the pharynx will be taken up under the following classification:

- Abnormalities of Sensation;
- Neuralgia;
- Reflex Neuroses;
- Spasmodic Disturbances;
- Vascular Neuroses.

Abnormalities of Sensation. Anaesthesia of the pharynx is properly classed as an abnormality of sensation. It has been described as a separate disease but it is rather a condition depending upon some general disease or due to the influence of drugs such as the bromides, aconite, belladonna, morphia, cocaine, etc. Formerly it was a common practice to administer bromides to overcome the sensibility of the pharynx and render it more tolerant of the mirror

* Read at the twenty sixth Annual Congress of the American Laryngological Association held at Atlantic City, N. J., June 2nd, 3rd, and 4th, 1904.

for examination and treatment of the larynx; but the arrival of cocaine quickly made ancient history of this practice. Cicatrices caused by syphilitic ulceration are anesthetic. It is stated by Newcombe that anesthesia of the pharynx has been noted in some cases of la grippe. Shurley refers to anesthesia and analgesia as congenital physical defects illustrated in those freaks who stick pins and sharp blades into their mucous membranes and swallow swords without the production of pain.

Hyperaesthesia is found in some degree with almost any acute inflammation of the throat, or with the chronic congestions due to the excessive use of tobacco or alcohol. It may be due to actual lesion within the throat or may be an attendant of another disease, as gastric catarrh. It is often so marked as to prevent examination and treatment of the larynx. This is more noticeable among the nervous, and is another odium heaped upon hysterical females. But rebellious throats are not the exclusive property of the gentler sex. The most obstinate pharynx coming under my observation was that of a young man who is not an alcoholic and who is in excellent general health. The mere approach of a mirror toward his pharynx was sufficient to arouse a spasm of retching. Even though aided by cocaine and the patient's voluntary efforts the annoyance of treatment was so great and the pharynx so uncontrollable that treatment had to be abandoned.

Treatment for anesthesia and hyperesthesia suggests itself. In both, the patient's general health calls for care. In hyperesthesia local as well as general treatment will be necessary.

Paraesthesia is also common among the neurotic and hysterical. Patients who dwell with morbid apprehension upon the peculiar sensations in the pharynx sometimes develop insanity later, so that the mental side presented with this condition should not be overlooked. The usual complaint is of a tingling or prickling sensation, or of a foreign body as of a fish-bone, a splinter of wood, a thread, a bristle, or of the rising of a lump in the throat (*globus hystericus*.) There is often with hay fever a distressing, burning and prickling in the roof of the mouth and pharynx. For our own credit as well as for the relief of the patient, cases of supposed foreign bodies demand careful attention. A small fish-bone, almost translucent, may be so deeply imbedded in the tonsil or in the lymphoid tissue at the base of the tongue as to escape detection unless inspection is most thorough. Among those which I have overlooked was one of a fish bone in the lymphoid tissue at the base of the tongue. Nothing was seen at first examination and in spite of the patient's assertion of distress I regarded the pain as due to inflammation and expected it would pass with the subsidence of the congestion. The patient

returned within a day or two in greater pain, and the small sharp translucent bone was found buried in the base of the tongue at such an angle that in the act of swallowing the posterior pharyngeal wall was abraded. It was the bleeding wound on the back of the throat which gave the clue to the location of the foreign body. The experience was more valuable to me than to the patient. Since that event every case of supposed foreign body in the throat has received more sympathetic and careful attention. The treatment of paresis calls for the resources of the general practitioner as well as for the best efforts of the laryngologist. An improvement of general health is to be sought, and any local lesion, which will probably include varices or hypertrophy within the lymphoid ring, should be corrected.

A true *Neuralgia* of the pharynx is rare if by the term we are restricted to symptoms due to disease or injury of some nerve or a neighboring trunk, plexus or ganglion. If, however, painful affections, which are unaccompanied by any visible evidence of disease, may be classed as neuralgias the condition is not so rare. A sore throat, with no accompanying inflammatory process sufficiently marked to account for it, is quite frequently observed and while this is more often seen in those of a nervous temperament it may attend a rheumatic attack and in such case yields to the internal use of salicylate of soda more promptly than to any local or general treatment. If no history of a rheumatic diathesis can be found, then general tonics with suitable regulations as to out of door living are to be employed. The whole pharynx should at the same time be carefully examined with reference to the removal of any morbid condition, especially lymphoid tissue.

Reflex Neuroses. We are called upon daily to relieve symptoms due to disease of lymphoid tissue in the pharynx. Among the most common of these is cough. It is perhaps debatable whether cough due to hypertrophy of lymphoid tissue in the pharynx is to be regarded as a reflex or purely symptomatic of lymphoid disease. We know from daily experience that cases of persistent cough in children are cured by the removal of tonsils and adenoids. Mayer has called attention to the cure of cough by removal of lymphoid hypertrophy from the posterior wall of the pharynx; and the same tissue at the base of the tongue is notoriously responsible for cough, and its removal effects a cure. It is easy to maintain for some of these lesions the nature of a reflex, as that on the posterior pharyngeal wall; if it be admitted for all, then in mere number of cases all other reflexes fall into insignificance compared with cough due to pharyngeal lesions.

There is a series of reflexes—pain referred to other regions—through traumatism or pathological process involving the branches of a nerve within the pharynx. This results from the free communication between the glosso-pharyngeal and the vagaries of the pneumogastric, the spinal accessory, the facial and sympathetic. Pain referred to the ear is a common attendant of an acute inflammatory process within the pharynx of the corresponding side, or of the division of a nerve in operations, or of the involvement of a filament in a malignant or ulcerative process of whatever nature. The usual signal line for this impulse is doubtless by way of the petrous ganglion of the glosso-pharyngeal, whence Jacobson's nerve carries the impulse to the tympanum. There is satisfaction in knowing when the patient complains of pain in the ear after tonsillotomy, that the route of this impulse is by Jacobson's nerve. Pain from acute processes within the throat is sometimes referred to the region of the jaw in front of the ear.

Tinnitus Aurium which is so distressing to patients and so difficult of cure has, in one well marked case under my care, been greatly relieved by the removal of lymphoid hypertrophy at the base of the tongue. The occasion of the treatment in this case was an obstinate spasmodic cough which did not yield to the ordinary measures. The cough was overcome, and the patient volunteered the information that the tinnitus had become far less troublesome. Since the ear affection was of many years' standing it seemed reasonable to attribute the improvement to the lessened congestion of the pharynx following the removal of the lymphoid tissue.

A reflex disturbance of secretion—*Sialorrhoea*—occasionally met with is to be counted among the rare neuroses of the pharynx. The excessive flow of saliva caused by the use of such drugs as mercury or pilocarpine can not be included under this head, but only those reflexes attending stomatitis, dyspepsia or occurring in nervous individuals in whom a local lesion is difficult of demonstration. A man of sixty was recently referred to me because of an excessive secretion of mucus, principally from the pharynx. He is highly neurotic and has wasted much substance on patent medicines. Having retired from an active business, that of farming, he seems to have nothing to do but spit and this he does at a rate of from 30 to 100 times a minute, to the great distress of himself and family. He is tormented night and day and his long suffering wife stated that he half filled a wash bowl during the night.

Spasmodic Disturbances. A rare neurosis of the pharynx is that described as chorea pharyngis and consists of involuntary movements of the muscles of the pharynx or soft palate, or both. When the palatal muscles are involved their movement may be attended by a

clicking sound caused by the contact and separation of the moist surfaces of the palate and posterior pharyngeal wall. These sounds may be audible at a short distance from the patient, or if due to simple muscular movement may sometimes be heard through the ear by means of the diagnostic tube. These movements have been very rapid in some of the cases reported, 150 times a minute in Lack's case, and more than 200 in Semon's (*Journ. Laryng., Rhin. & Otol.*, March, 1901; p. 131). There is an approach to uniformity or regularity in these movements which makes the use of the word choreic inappropriate, and Lambert Lack, (*THE LARYNGOSCOPE*, June, 1898; p. 335) whose paper has been referred to by nearly every writer on the subject since his collection of cases appeared, compared the movement to nystagmus, the twitching is so rapid and unceasing. The larynx may participate in these rapid spasmodic movements though it is less likely to do so if the cause is not central. It is interesting to note that, in some cases at least, the patients were not aware of any unusual condition in the throat and the peculiar twitchings were discovered accidentally while examining the throat because of other symptoms. If the nasal passages are wide, the muscular spasms may be observed through the nose, thus the movement is shown to continue with the mouth opened or closed; and it has been demonstrated to persist during mastication, deglutition and phonation, but ceases during sleep.

Lambert Lack's case (*THE LARYNGOSCOPE*, June, 1898; p. 335) well illustrates this form of spasmodic disturbance. L. H., female, aged nineteen years, came under observation at the London Throat Hospital. Examination showed a rapid twitching of the posterior pharyngeal wall which seemed to be sharply jerked to the left side, then relaxed. The movements were unceasing and 150 or more to the minute. They were not quite regular either in extent or time, and curiously resembled nystagmus, which he considers the best name to apply to the affection, since they were quite different from choreic movements. The affected muscles were the superior and middle constrictors, the palatal muscles not being involved, although at times the soft palate had a slight communicated movement. This condition remained constant for over two months, during which time the patient was under frequent observation and was shown to the Laryngological Society of London. It apparently gave rise to no symptoms and thus its previous duration could not be determined. Cocainizing the nose and the pharynx had no effect on the movements. One nostril at times being sufficiently patent to permit a view of the pharynx, the movements could be seen to continue when the mouth was closed. The patient was in robust health but suffered from post-nasal catarrh with dry crusty secretion. There was no

tremor or spasm of any other muscles than those described, and no history, personal or family, of chorea or rheumatism. The patient did not seem hysterical, and although rather nervous on her visits to the hospital, did not appear to be so at other times.

It has been suggested that these movements of the pharyngeal muscles, which have passed beyond the control of the patient, may have been voluntary in the first instance, an attempt to dislodge the troublesome crusts. The most severe and extensive cases of this character are due to serious central lesions, as cerebral tumors, meningitis, etc. These do not concern us. The milder ones in which the muscles of the soft palate and pharynx alone are implicated are attributed to local lesions, as hypertrophied turbinates, adenoids, polypi, atrophic rhinitis with adherent crusts, etc., and the correction of these local conditions, with attention to the general health, results in relief.

Vascular Neuroses. Under the term angioneurotic oedema of the pharynx Necombe "Diseases of the Ear, Nose and Throat," 1901; p. 530 describes a vasomotor disorder characterized by an abrupt oedematous swelling. Death may occur from the degree and extent of the oedema. He refers to Hubbard's case, that of a woman thirty years of age, who suffered from repeated attacks of faucial oedema which were the result of autotoxæmia. These attacks were frequent, occurring twice a month for a period of two years. After two or three days the oedema would subside and the patient be able to be around again. These disturbances seemed to be the expression of a cumulative autotoxæmia, and starvation a necessary part of treatment, while eliminative measures finally broke up the series of attacks. This affection has been called giant urticaria, but Hubbard points out as differentiating angioneurotic oedema, that there is a definitely localized, persistent vasomotor instability; while in urticaria the area of the attack is shifting, the attack intermittent and there seems to be a vasomotor irritability responding to certain irritants, probably from the gastro-intestinal tract.

One form of irritation of nerve trunks or their branches induces an eruption at their terminal filaments on the mucous membrane as well as on the skin. In the pharynx herpes and urticaria are perhaps the least rare of these neurotic inflammations. The cause of the phenomena thus presented is constitutional, though the expression is local. The soft palate, the mucous membrane of which is supplied by the middle and posterior palatine nerve, presents this form of eruption less rarely than does the pharynx. Characteristic of herpes zoster is the unilateral distribution of the eruption and the neuralgic pain which precedes. Systemic treatment is indicated not only because of the nature of the affection but because it occurs in neurotic individuals whose general health is impaired. Locally, soothing applications are called for during the early acute stage, and mild antiseptics after the vesicles have ruptured.

In fact as regards the treatment of most of the cases of pharyngeal neuroses they may be classed together. Nearly all the patients are neurotics and, while local lesions are to be sought and removed when found, the general health must be improved by every method which can be brought to bear upon the individual case.

NEUROSES OF THE LARYNX.*

BY EMIL MAYER, M. D., NEW YORK.

Surgeon to the New York Eye and Ear Infirmary (Throat Department); Adjunct attending Laryngologist of the Mt. Sinai Hospital; Fellow of the American Laryngological Association; of the New York Academy of Medicine; of the American Medical Association, etc.

A retrospect of the twenty-five volumes of the transactions of this association shows an interesting condition of affairs with regard to essays on various Neuroses of the Larynx. In the first fifteen volumes no year elapsed without at least one, and more often there were three and four essays on this subject. In the last ten years but very few references to laryngeal neuroses are found, many volumes having none at all.

This is probably due to the fact that those were the early days of the laryngoscope, the functions of the intralaryngeal muscles were closely observed in health and in disease and became the subject of discussion. With the advance of surgery in this and adjacent fields newer observations were made in other directions while few new facts presented regarding neuroses. It is worthy of note in this connection that Doctor Louis Elsberg, who is so often quoted as the father of American Laryngology in the gatherings of this association, presented his last scientific contribution to this body in 1884 in an article on laryngeal spasm, at the special request of the president, Doctor Bosworth. He began with an apology for the imperfect manner of its preparation, stating that he had had no opportunity of writing down what he was about to read until the very morning of the meeting and promising that if he lived he would prepare a more elaborate essay on the subject before the next annual meeting. The "imperfect essay, so hastily written" occupies ten pages of the Transactions for that year and is so complete and thorough a presentation of the subject that we can readily surmise what a valuable contribution that might have been, which was denied us by his untimely death.

Passing briefly, and with mere mention, the various sensory disturbances as hyperæsthesia and anæsthesia, the subject of neuroses will be presented to you under the following headings: 1. Motor disturbances of a hyperkinetic nature; the spasmodic affections of the larynx. 2. Stammering. 3. Status lymphaticus and sudden deaths. 4. Motor paralyses.

* Read before the American Laryngological Association at its twenty-sixth Annual Meeting at Atlantic City, N. J., June 2nd, 1904.

1. SPASMODIC AFFECTIONS OF THE LARYNX.

These are laryngismus stridulus, congenital stridor, spasm of the glottis, chorea of the larynx, laryngeal nystagmus, laryngeal vertigo and dysphonia spastica.

LARYNGISMUS STRIDULUS.

Laryngismus stridulus is a spasmodic functional nervous disorder of the glottis, also involving the muscles of inspiration and expiration. The etiology of this affection is obscure. Although rachitis is so frequent an accompaniment of the disorder, it may not yet be assumed that it is the exciting cause. Craniotabes, which is a part of the symptom-complex, has been regarded as the cause (Elsasser). Escherich, Loos, Gee, and Ganghofner have placed laryngismus stridulus in the same category as Tetany, and trace it to the same exciting cause.

Reflex irritation from the stomach acting through the vagus, is the theory of Baginsky. In many cases which have terminated fatally an enlarged thymus has been found. On the other hand, there have been post mortems which showed a rather small thymus and slightly enlarged bronchial nodes (Baginsky). (Koplik—"Diseases of Children," 1902.)

SYMPTOMATOLOGY.

Its advent is usually sudden, and occurs more frequently at night. It is usually ushered in by a short sharp cry followed by stridulous, croaking inspiratory efforts associated with short ineffectual inspiration, the countenance becomes congested, the eyes suffused and glassy, the skin cool and clammy. The pulse is decidedly accelerated, the temperature but slightly raised if at all. General convulsions may follow, and there may be complete subsidence of all symptoms immediately after. There follows much exhaustion and stupor, lasting for an hour or more according to the length and severity of the paroxysm. The differential diagnosis between the attacks of laryngismus stridulus and diphtheria is made by the history of sudden onset in the former; the absence of membrane and of swollen glands, of temperature, of albumen in the urine and of the absence of the Klebs-Loeffler bacillus.

Treatment. The removal of any cause, as gastro-intestinal irritation, inhalations of steam, warm poultices and sedatives. The iodated lime is much exploited as being specific in value. The prognosis is good.

CONGENITAL STRIDOR OF INFANTS.

This rare condition has been classified as a mild form of laryngismus stridulus. As it may in its early stages be mistaken for laryngeal spasm, and as some writers maintain that it is originally a nervous affection, it is deemed advisable to present it here with other functional respiratory disturbances. I have seen two cases of this affection—one at my clinic, at the throat department of the New York Eye and Ear Infirmary, and the other a patient of Doctor Samuel Kohn of New York City, and which Kohn has recorded (*N. Y. and Phila. Med. Journ.*)

There is a wide diversity of opinion as to the actual causative factors in this condition. Variot, Bruder, Sutherland, Lack and others believe that the condition is due to a temporary malformation of the larynx. "The epiglottis rolls upon itself and forms a narrow groove, the ary-epiglottic folds come in contact forming a constriction which causes stridor. As the child grows the larynx unfolds and grows and the symptoms cease."

Newcomb "*Transactions of the American Laryngological Ass'n.*," (1903), quotes McBride as regarding laryngeal stridor as due to spasm, not paralysis, and would consider it as similar in etiology to laryngismus stridulus.

Newcomb is inclined to accept the theory of Lack, that the stridor is due to a congenital deformity of the superior laryngeal aperture aided by the flaccidity of the parts in infancy but not entirely dependent thereon.

John Thompson and A. Logan Turner (*British Med. Journ.*, Dec. 1, 1900) after a most careful and searching inquiry aided by post mortem examination state as follows:

"It may be well that we should add a few words to define as clearly as possible how our position differs from that of Sutherland and Lack in their paper (*Lancet*, Sept. 11, 1897) referred to, which seemed to us by far the most important contribution made to the subject. We are cordially at one with them when they say that the affection depends on a valvular action of the upper aperture of the larynx a falling inward of its lateral walls during inspiration, and that this is due partly to the flaccidity of the parts in infants.

We join issue with them altogether, however, when they ascribe primary etiological importance to the peculiar conformation of the upper aperture found in these cases and regard it as a congenital malformation. We consider it an acquired deformity, and hold that it, as well as stridor, are the result of the ill-coördinated stammering breathing. Our most important conclusions may be stated as follows:

First. That the primary element in the causation of this condition is a disturbance of the coördination of the respiratory movements probably due to some developmental backwardness of the cortical structures which control them.

Second. That the change of form is merely an exaggeration of the normal infantile type, and is mainly if not entirely the result of a constantly recurring sucking in of the upper aperture of the soft larynx, which is induced by the ill-coördinated and spasmodic nature of the breathing. That it is in fact, an acquired deformity, strictly analogous to pigeon-breast.

Third. That there is no proof that any congenital malformation of the upper laryngeal aperture exists in these cases.

Fourth. That the supposition of a congenital deformity is not essential to account for the symptoms, inasmuch as normal babies crouch in a similar manner as they come out of chloroform.

Fifth. That the sounds are not produced in the pharynx, nor produced in the trachea by compression. It is probably produced in the larynx proper and partly at the abnormally approximated ary-epiglottic folds.

Sixth. That the neuroses causing the symptoms has not in their experience seemed to depend on the presence of adenoid growths or other obvious causes of reflex irritation.

The diagnosis should not be difficult—its appearance at birth, the sound heard at inspiration only, the absence of cyanosis and of high temperature, and the constancy of the sound, independent of the position of the child who plays about quite unconscious of any disturbance, all present a picture easy to recognize.

From laryngismus stridulus it is readily differentiated. From stridor due to pressure on the trachea; from an enlarged thymus or bronchial gland it may be differentiated by the fact that pressure produces inspiratory and expiratory dyspnoea, and the sound is louder when the child is on its back. The large gland may be palpated. Toward the end of the second year the condition gradually ceases, leaving no trace of noisy breathing.

SPASM OF THE GLOTTIS.

Under this heading are included only the irregular or transient laryngeal spasms. These are due to a direct irritation or pressure operating on the laryngeal nerves and muscles or from reflex irritation from remote parts of the body. Among the direct causes are enlargement of the thyroid and lymphatic glands, the pressure of aneurisms, of tubercular deposits, the entrance of foreign bodies in the larynx, as the precursor of paralysis and carcinoma. Brose

(*Journ. Am. Med. Ass'n.*, June 22, 1901) reports two cases of laryngeal spasm in adults, due to carcinoma and tuberculosis respectively.

Semon, ("*Handbuch der Laryngologie*" Heymann) discusses the pathogenesis of inspiratory spasm, and is inclined to assume that it is due to an abnormal irritability of the bulbar, and sometimes even of the cortical adductor centres; that peripheral stimuli, particularly those through the centripetal fibres of the vagus, which under normal circumstances only reach the medulla, producing abductor tonus, and which on forced respiration cause contraction of the abductors, in the neurosis under consideration exercise their influence on the bulbar adductor centre as well, and produce an effect which overbalances the stimulation of the corresponding abductor centre.

In support of this view Semon describes a case in which a cold douche produced a sudden change from inspiratory spasm to functional aphonia; and these continued alternately. He assumes that in this case the abnormal stimulus had reached not merely the bulbar but the cortical centre also, and that the sudden shock not only removed over-stimulation but substituted paresis. This certainly seems a more plausible theory than that which would explain inspiratory spasm as resulting from a weakness of the adductors.

The writer has recorded a case of laryngeal spasm (Posey & Wright, p. 1049) which was the precursor of an acute miliary tuberculosis. It may also be associated with acute inflammatory disturbances. Dundas Grant and Mac Intosh (*Journ. Laryng., Rhinol., and Otol.*, April, 1901) have recorded a case evidently due to an acute lingual tonsillitis. The diagnosis is apparent, although the search for the cause may be a matter of much difficulty. The treatment is entirely dependent upon the cause.

CHOREA OF THE LARYNX.

A non-rhythmic oscillation of the muscles of the larynx, is of infrequent occurrence. It may exist in the larynx alone or associated with chorea elsewhere. The writer saw a case of chorea of the larynx which was followed two weeks later by general chorea.

McGaw (*Ann. Otol., Rhinol., and Laryngol.*, May, 1902, p. 293), records a case of chorea of the larynx associated with chorea in other parts of the body. The laryngeal symptoms were a short barking cough.

H. Caboche, (*Ann. de mal. de l'oreille, du larynx, etc.*, October, 1902,) reports a case of chorea in which the muscles of the larynx were affected with chronic movements at the same time with those of the trunk and the limbs. The muscles of the face were not affected. The patient exhibited paroxysms of hiccough in which

particles of food were frequently ejected from the stomach. There were fibrillary contractions of the tongue, a considerable restriction of the field of vision, and other hysterical manifestations. The laryngeal symptoms consisted in a peculiar modification of the voice, which was sometimes varied in pitch passing from a very high to a very low pitch between consecutive words so that there would be several abrupt changes of pitch in a short sentence. The sentence often ended in an abrupt explosion of sound. These paroxysms were invariably accompanied by an electric discharge causing choreic movements in the muscles of the limbs or of the trunk. Laryngoscopic examination showed the vocal cords very pale, without a trace of catarrh. During respiration instead of remaining in repose in abduction, or passing through a slight movement of adduction, at the end of expiration as in the normal condition, they were seen to oscillate continually between the position of moderate adduction and abduction, and suddenly to approach each other with a violent movement of adduction and immediately to separate. The patient had no cough. The throat and nose were normal. She slowly improved under treatment by bromide, valerianate of zinc and faradism to the larynx.

Chorea of the larynx may be associated with spasm. L. C. Peter. (*Ann. of Gynecol. and Pediatrics*, March, 1901), reports a case of laryngeal habit spasm and chorea in a boy of fourteen, who had six attacks of chorea in the last four years. His recent symptoms were an explosive attempt at phonation which was increased by excitement. The epiglottis is pinched and gives a slit-like opening. The cords, normal in color close sharply when spasm comes on and after a second opening quickly, almost explosively, when the click is heard.

The reasons for considering this to be habit spasm are:

First. Movements of chorea are increased not only by emotion, but also by voluntary effort. In this instance emotion increases the frequency of sound, but voluntary effort does not. It does not occur during speech effort.

Second. The movements of chorea are always inco-ordinate, the muscles being individually in spasm or action and not physiological groups, or if the latter, only coincidentally. He has never seen co-ordinated bi-lateral movements produced in chorea involuntarily. In this boy phonation apparently is involuntary, and the muscular movements are nicely co-ordinated so that tones are produced which are uniform in pitch. The constancy and bi-lateral origin are in favor of habit spasm.

Third. The symptom improved rapidly under a line of treatment which would not influence chorea, to any great extent, in a short time.

By the use of arsenic and suggestive therapeutics (and most probably the credit belongs entirely to the latter), he improved rapidly. In chorea, the will operates but feebly to quiet the movement, as a matter of fact mental as well as physical effort largely increases it. The diagnosis is not difficult and prognosis generally is good.

Treatment consists of rest of the larynx, arsenic, suggestive therapy, and firm but kind measures—coercion is absolutely harmful.

LARYNGEAL NYSTAGMUS.

This exists without pharyngeal involvement though they are apt to be associated. Lack: (*THE LARYNGOSCOPE*, June, 1898,) reports a case of nystagmus. He quotes Baginsky as describing a case of nystagmus of the vocal cord in a case of a woman of sixty-one, who had various forms of hysteria for years. The vocal cords during expiration moved in a jerky manner up to or beyond the "cadaveric" position. These movements were less marked on hurried respiration and disappeared entirely on phonation. They persisted over two years.

At the meeting of the London Laryngological Association (*Internat. Centralbl. f. Laryngol.*, No. 18, 1902; p. 45), Sir Felix Semon presented a case of nystagmus of the pharynx and larynx. Fifteen months previous she noticed a hammering noise in her throat, recurring four times to the second, similar movements were noticed in the floor of the mouth, in the larynx and the epiglottis.

The arytenoids moved rhythmic toward the median line. Motions ceased during phonation recurring in sleep.

Lack, analysing the cases makes two subdivisions of this affection.

First. Serious and well marked cases as a result of gross lesions of the central nervous system.

Second. Milder cases, reflex in origin, resulting from mild local diseased conditions as post nasal catarrh and pharyngitis sicca.

ICOTUS LARYNGIS.

Laryngeal vertigo, while most frequently associated with some central lesion, as in organic disease, exists also independently and is due to a variety of causes. Among these may be mentioned asthma, excessive smoking, elongated uvula and hypertrophy of the lingual tonsil. The attack is occasioned by some irritation of the peripheral nerve. This irritation is directed to the cardiac and pulmonary centres rather than to the cortex. As a result of the cardiac

and pulmonary disturbance, with the mechanical irritation causing cough, alterations in the cortical circulation occur, and the attack follows. The symptoms of laryngeal vertigo are first a tickling of the throat, causing cough, dizziness follows and the patient may fall unconscious to the floor, or, if seated, the head sinks forward on the chest. After a few seconds he arises pale and resumes his interrupted task. It occurs most frequently in adult males.

It has been proposed to call these attacks epileptic, but there is the decided objection thereto, that the attacks are not associated with convulsions of any kind, there is no history of preceding loss of consciousness, and the removal of the irritating cause relieves the patient of all further attacks.

Avellis (*Arch. f. Laryngol.* vol. 13; p. 368), records the case of a male aged thirty-eight, who had been well, free from neuroses and had an attack of pertussis when first seen, in July, 1902. He had been the means of conveying the contagion to his mother and sister. An examination at the time showed that the ventricular bands fall together, the vocal cords congested, swollen, and on the edges of both there are the usual superficial half-moon shaped erosions.

His history was that he had had numerous attacks of coughing, dizziness and loss of consciousness for three weeks previous to the time he was seen by Avellis. The unconsciousness was so complete that he was made aware of it by the fact he found himself in some unusual position. At one time he remembered arising and going to a side table for a glass of water and found the glass emptied on his bed. Another time he fell out of bed and found himself on the floor, when he awakened. On still another occasion he fell over a centre table and on awakening found himself lying across it. The tip of the tongue was often injured and he had contusions on his forehead. In the mildest attacks there was a sudden loss of consciousness and it was impossible for him to finish the sentence he was speaking. He continued having these attacks for the next five weeks when they ceased altogether.

Medication never influenced the attack. The number of the attacks, beginning with the fifth week of the pertussis increased at first and became gradually less, just as the cough attacks in whooping cough, and at first were most frequent at night.

As the case of Avellis was not associated with dizziness, but a laryngeal irritation and loss of consciousness, he thinks it should be considered as differing from laryngeal vertigo. True laryngeal vertigo is described by him as occurring in a tabetic and tubercular patient who was attacked on the street with a short cough, dizziness, but no loss of consciousness. Later he had severe attacks and he

fell as he said, because his weakened legs failed of their support. It was true vertigo. Irritation of the posterior laryngeal wall with a cotton covered probe brought on an attack of dizziness. One day both membrana tympani disappeared without pain. Tuberculosis of the middle ear, of a severe type, and almost complete deafness followed. The attacks of laryngeal vertigo ceased. He believes that the beginning of tuberculosis of the middle ear was probably the first cause of the laryngeal vertigo. He mentions the case as differentiating the two forms of laryngeal vertigo with and without loss of consciousness.

Treatment. If any definite causal factor be found its removal is followed by cessation of the attacks.

DYSPHONIA SPASTICA.

Phonatory spasm, due to a more or less complete closure of the glottis and an inco-ordination of the muscles of the larynx may exist alone or with functional inspiratory spasm of the glottis.

L. Middlemas Hunt (*Liverpool Medico-Chir Journ.*, July, 1900), reports a case occurring in a male, aged fifty, who lost his voice suddenly six months previously without known cause. He has either been aphonic or has spoken in a high falsetto. On attempted phonation the cords are so strongly approximated that the right vocal process crosses over the top of the left. If the patient makes an effort to speak during the periods of aphonia his face becomes livid and the muscles are convulsed. The normal voice can be restored by pressing on the epiglottis, but it immediately disappears on removing pressure.

Parmewan suggested that the withdrawal of the money the man was drawing from his club might cure the patient.

STAMMERING.

This is defined to be an inco-ordination of the three mechanisms of speech—the respiratory, the vocal and the oral. In the medulla oblongata is located the centre which presides over the co-ordination of the basal phonic centre, and the faulty mechanism of one results in a faulty action of all. Because of this origin it is placed among the neuroses.

Volumes have been written on this subject and essays thereon have been presented in an exhaustive, clear and convincing manner by our associate, G. H. Makuen. It would seem to the writer most fitting to present a brief résumé taken from a recent article by Makuen (*Phila. Med. Journ.*, February 2, 1901), rather than a more elaborate and exhaustive presentation of this subject, leading as it would to the same conclusions.

The proper early training of young children would prevent the development of defective speech in a large proportion of cases. The general health should be kept in the best possible condition. Baby talk should be encouraged only up to a certain point, and children should not be talked to in any but the best speech beyond a very early age, since all speech is a matter of imitation, and they imitate what they hear.

Stammering is an acquired defect, not congenital nor inherited beyond the fact that certain nervous conditions may predispose children to this affection, and in case a child's ancestors have stammered he should be very carefully managed. The attention of the child should never be called to the defect, nor should the word stammering be mentioned in his presence, since a nervous dread of the affection is easily acquired. In its correction, and in all forms of imperfect articulation, each element of speech which is defective should be taken up separately, and the patient taught how to acquire the correct position of mouth, lips, tongue and palate for the enunciation of those sounds, and close attention should be given to the character of each sound he utters.

In the case of the stammerer, it is not strictly a form of defective speech, since his difficulty is not with thought, but with his power of expressing that thought. He thinks in words, but cannot speak in words. The stammerer has little difficulty in talking when alone or in the presence of dumb animals, and the author thinks that all stammerers can swear. Stammering is often brought on suddenly by a severe shock to the nervous system, due to the fact that the motor processes of speech are carried on mainly in the bulb and spinal cord, and anything interfering with this process will naturally result in disordered speech. The nose and throat and the condition of the tongue should, in all cases, be carefully looked after, but surgery has no value beyond the correction of actual deformities of the organs. The treatment of stammering, as of other defects, must be, in the main, educational. The nervous mechanisms of speech must be reached through the training of the muscles supplied by those nerves and employed in the processes of speech, the aim in all cases being towards volitional control of the muscles.

Ingenuity is required in the individual case, and only persons of great patience and perseverance are suited to work over, and treat these cases under the guidance of the physician.

NEURALGIA OF THE LARYNX.

This is either one-sided or bilateral. The pain is acute, sudden of onset, and may be present in speaking or swallowing or independent of any motion of the larynx. The painful point is indi-

cated and is usually at the point of entrance of the superior laryngeal nerve through the thyro-hyoid membrane of the affected side. A second point of pain may be found in the sinus pyriformis. It is by no means easy of diagnosis, the history being of most value. The simplest cases are those of malarial origin, the pain coming on at certain stated intervals with entire absence of discomfort between the attacks. The coal tar preparations usually will be indicated.

STATUS LYMPHATICUS AND SUDDEN DEATHS.

Germane to this subject is the sudden death, associated with the status lymphaticus, in which spasm of the larynx plays a prominent part. The importance of a clear understanding of this subject cannot be over-estimated, it forming an explanation of the sudden deaths from anæsthesia in operations for adenoid growths, where the status lymphaticus is practically always present.

Ohlmacher (*Journ. Am. Med. Ass'n.*, Feb. 13, 1904) presents his views on this subject and concludes as follows:

"Whatever its mechanism, I am, from my observation on lymphatic epileptics and my reflection on these studies; strongly disposed to the belief that a periodic increase of intracranial pressure acting either on the exterior or interior of the brain, or on both portions simultaneously, and manifesting itself as a result of the tendency to edema characteristic of status lymphaticus, is a directly provocative factor of such neuroses as spasm of the glottis, tetany, infantile eclampsia, epilepsy, and the various forms of sudden death incidental to the lymphatic state. According to this view the clinical phenomena would depend on the extent and location of the intracranial edema, or, in other words, on the portion of the encephalon particularly subjected to pressure. In event of compression of the external portion of the cerebrum various convulsive disorders of the motor apparatus are provoked; when the balance of pressure becomes so distributed as to raise the intracerebral pressure other severer symptoms occur, ending, in case of sufficient pressure on the floor of the fourth ventricle, in sudden respiratory or cardiac failure. Granting the hypothesis just advanced, we are brought one step nearer the explanation of the *modus operandi* of several obscure neuroses whose kinship has repeatedly been recognized on purely clinical grounds and whose morbid anatomic association is proved by the establishment of the lymphatic state as a common basis for all. Cheadle's dictum that 'laryngismus, tetany, and general convulsions are the positive, comparative and superlative of the convulsive state of childhood,' finds support and elaboration."

MOTOR PARALYSES.

These may be due to pathologic changes in the muscles or to functional lesion of the nerve centres or motor nerve trunks. The latter is always a true neuroses. The individual muscles that are thus affected are the central adductors, (arytenoids) the internal tensors (thyro-arytenoids) and the unilateral or bilateral adductors (lateral crico arytenoids). The crico-thyroid muscles are involved when the superior laryngeal nerve which supplies their motility and sensation to the mucous membrane of the larynx, is affected.

To the many known causes of laryngeal paralysis may be added some of an unusual nature that have been recorded. Irsæ (*Internat. Centralbl. f. Lar.*, 18. p. 397) mentions a case of left-sided paralysis due to pericardial exudate. St. Clair Gillies, (*Austral. Med. Gaz.*, Nov. 20, 1901) reports two cases accompanying mitral stenosis. Krebs. (*Internat. Centralbl. f. Laryngol., Rhinol., etc.*, No. 18, p. 220) a case of vocal insufficiency following enucleation of an angio fibroma at the angle of the jaw. Sanger & Helger (*Zeitschr. f. Hypnose*, X; Heft 4, 1901) report a case of aphonia following laryngo-fissure for papilloma in an eight-year-old girl. Faradization and galvanism proving valueless she was found to be able to speak under hypnotic influence. Systematic vocal exercises were followed by cure.

Nehab (*Internat. Centralbl. f. Laryng., Rhinol., etc.*, No. 18, p. 301) records a case of traumatic right sided paralysis. The patient was shot in the left shoulder five years previously. There was no wound of exit. He stated that his dysphagia and husky voice first appeared eight weeks previous to his consulting Nehab. No bullet was found by the Fluoroscope. The Roentgen rays showed splintered bone about an inch to the left of the sternum, and the writer believes the paralysis to be due to the pressure of this splintered bone. The functional aphonia known as hysterical aphonia is so well known to you, that the recapitulation of the theories as to its origin would be a work of supererogation. In none of these cases can the diagnosis be made by the laryngoscope alone. The clinical history, with the patient's ability to cough, help much toward its elucidation.

Treatment—Among some recent suggestion Rueda (*Revista de medic y. Cirurg. Practicas*. No. 14, July, 1900) says: Everything must be tried from the simple drawing of the tongue, a laryngoscopic examination, hypnotic suggestion, massage and intralaryngeal applications. In one case all failed and the teaching of sounds, tones and syllables gradually, and finally words, brought results.

Loeb (*Journ. Am. Med. Ass'n.*, Jan. 16, 1904) states that he delivered a short and more or less sentimental talk to aphonics on the word home, which he states is the first word that they will utter, the most beautiful and easiest to pronounce in the English language. Having secured the requisite confidence and interest he places the patient on a chair and he inserts the index finger of the right hand into the pharynx and presses the epiglottis over the glottis until the patient becomes somewhat uncomfortable, when he withdraws his finger and says in a commanding voice, "Now, say home, home, home." The patient repeats not only "home" but any word suggested and leaves the office talking as well as anyone.

For this and other forms of paralysis E. Richter (*Arch. f. Laryngol.*, xi. 3) has devised an electrode for treating the recurrent nerve on a new principle, i. e., applying the electricity directly to the trunk of a motor nerve with a very much weaker current than is usually employed. In case of hyper-excitability, weakness or paralysis of the laryngeal muscles, they can be stimulated by the direct application of the primary current. The electrode for this purpose consists of two separately insulated soft, fine hair brushes mounted on copper wires, and dipped in a 10% solution of sodium bromide, and potassium iodid. This bipolar electrode is light, easily handled and does not hurt the larynx, while it can be sterilized by boiling. It can be changed to a unipolar electrode by connecting it with a single wire. The primary current is applied for five seconds; two to five milliamperes are ample. When the nerve, instead of the muscles, is to be treated, the continuous or sinusoidal alternating current is preferable, and the electrode for this purpose is shaped like a curved sound. It is inserted through the nose into the pharynx where it is turned until it lies along the side of the pharyngeal wall, or a larger sound can be inserted through the mouth and used behind the tonsil. At this point the branches of the vagus can be directly stimulated by the electricity and also the immediate vicinity of the main trunk. If the anode is thus introduced and the cathode is applied over the apex of the heart, with a current of from two to five milliamperes, the heart pulsates more slowly by sixteen to twenty beats in the minute, as Richter found by experiments on himself. Tests with this anode in the pharynx and the cathode on the ulnar nerve at the elbow, or applied to the posterior margin of the sterno-cleido-mastoid muscle, demonstrated the feasibility of this stimulation of the trunk of the motor nerves with a very weak current. Reversed currents seem to be ineffective.

The cathode must be applied to the muscles that require treatment. An extremely weak current is sufficient when the anode is in the

pharynx and the cathode in the larynx; a little stronger current for intralaryngeal action, and a current five to ten times as strong as the first, to induce percutaneous contraction of the muscles, applying the electricity near the thyroid cartilage. In case of very sensitive patients, the anode can be inserted in the pharynx and the cathode applied to the side of the thyroid cartilage.

These electrodes will be found useful in diagnosis, and for the treatment of vocal and respiratory troubles from weakness or paralysis of the muscles from any cause and of motor or sensory weakness or paralysis of the nerves. Hysterical troubles are peculiarly amenable to this treatment, as also megaphonia, aphonia, and dysphonia, besides the laryngeal troubles accompanying tabes, syringomyelia and other affections of the central nervous system. The muscles of the larynx can also be influenced and made to contract by placing the cathode in the throat and the anode in the anus.

HYSTERICAL APHASIA.

G. Avon (*Bull. de Laryngol.*, March 3, 1901) maintains that hysterical aphasia really exists, and assumes the same form as aphasia of organic origin. It sometimes takes the form of a special kind of aphasia such as pure verbal blindness, verbal deafness, etc. Its beginning is abrupt as is its disappearance and its duration is short, consequently the intelligence remains intact. The disease recurs and co-exists with stigmata of hysteria. As to its pathogeny, there are numerous hypotheses, among which the most recent is that of engorgement of the cerebral centre. The prognosis is good.

In concluding this paper, I beg to express my thanks to the council for the honor conferred in asking me to present this subject before you. I am aware that I have left much unsaid, but I trust that you will find that the important neuroses, not due to organic disease, have been mentioned. To the imperfections of presentation I ask your kindly indulgence and trust that you will ascribe most of them to the vastness of the subject and the limited time at my disposal.

25 East 77th Street.

SOME INTERESTING CASES OF MASTOIDITIS WITH REMARKS.*

BY JAMES F. M'CAW, M. D., WATERTOWN, N. Y.

Oculist, Aurist and Laryngologist to the City Hospital and Jefferson County Orphan Asylum. Fellow of the American Laryngological, Rhinological and Otological Society, etc:

It is with some hesitancy that I present before this body of eminent otologists a paper on the clinical aspect of mastoiditis and some of its complications. Although it has during the last few years, been the subject of considerable discussion, which has been productive of a better appreciation of the importance of this grave condition, and of the early application of appropriate measures devised for its relief, it is still a theme pregnant with much interest to those working in the special field of Rhino-Otology.

I take the liberty of presenting for your consideration a few cases coming under my care which seem to have some points of interest.

Case 1. Acute Suppurative Otitis Media; Mastoiditis; Subperiosteal Mastoid Abscess; Peri-sinus Epidural Abscess; Operation; Recovery.

Erick E., age 9 years was seen by me on November 28th, 1903, when the following history was elicited: One month ago had scarlatina; about two weeks ago during his convalescence, began to have severe pain in the right ear followed in two days by a purulent discharge which has continued very profuse ever since. Pain, tenderness and marked swelling behind the ear developed one week later. Examination; patient in excellent physical condition; there is a large and very sensitive swelling behind and above the right ear crowding the auricle down and out, tenderness on pressure over the antrum and the canal filled with pus. This case was sent to the hospital and operated upon the same day. Under chloroform the membrana tympani was thoroughly incised and a typical mastoid operation done. After making the primary incision over the mastoid and retracting the flaps it was found that the pus had found its way out through the external table at the mastoid fossa dissecting up the periosteum and forming an abscess cavity containing about one ounce. The entire mastoid process was found in an infected condition. The squamous plate just above and a little posterior to the antrum was carious where an epidural collection

*Read before the American Laryngological, Rhinological and Otological Society, at Chicago, Ill., May 30th, 1904.

of about one dram of pus was found. There was also a small collection just above the tignum antri. After thoroughly exposing and evacuating all pus collections and removing all necrotic tissue, the wound was dressed in the usual way. The little patient made an uneventful and rapid recovery.

Remarks. The interest in this case centers about the fact, that although rupture had taken place through the external surface of the mastoid, serious involvement of the intracranial contents was taking place. Dench in his work on "Diseases of the Ear," in speaking of this class of cases, says, "where rupture takes place upon the external surface of the mastoid, it is commonly supposed that all serious danger of involvement of the intracranial contents is at an end although the abscess may not be immediately evacuated by incision of the overlying soft parts. This is an error particularly in children. Here the sutural lines between the various portions of the temporal bone are not completely ossified, and when the external surface of the temporal bone is bathed in pus, infection, either through the sutural lines or through the substance of the squama itself, is by no means impossible." These cases I take it must be of rare occurrence as the literature furnishes few examples, and it is the first I have seen in my clinical experience covering a period of twelve years. It furnishes another striking illustration of the necessity of always opening the mastoid process in sub-periosteal accumulations, regardless of the fact that the external surface may show no pathological change.

Case II. Acute Suppurative Otitis Media; Double Mastoiditis; Operations; Recovery.

George G., aged 30 years was seen in consultation January 7th, 1903, when the following history was given. Ten days previously he contracted influenza with severe pain and discharge from the right ear; two days later pain and purulent discharge from the left. This was followed very shortly by pain radiating over the vertex and tenderness behind each ear. Temperature had been running from 101° to 104° F. rapid loss of flesh and strength and for 24 hours prior to my seeing him there had been present hebetude, alternating with mild delirium. Examination; patient much emaciated, a well developed hectic flush, salor complication, pinched expression, very marked hebetude, bordering upon stupor, temperature 104° F. and pulse 120. The picture presented being one of extreme suffering and profound sepsis. Both auditory canals filled with foul smelling pus; the posterior and upper portion of each sagging and a large perforation in each drum membrane. Some redness, swelling and extreme tenderness on pressure over the mastoid on each side. Pu-

pils reacted normally. It was a question whether I had to deal with a septic invasion of the intracranial contents, or whether the profound sepsis was due to absorption from the double mastoid condition. He was immediately sent to the hospital where the same evening I did a mastoid operation on each side, finding both processes filled with foul pus and broken down material. Thorough search was made for an entrance into the cranial cavity, but healthy bone was encountered throughout the internal table. Removal of all pus and septic material was accomplished and the wounds dressed as usual. His temperature gradually fell to normal in 36 hours, mental condition cleared and he made an uneventful recovery.

Remarks. The interest to me in this case besides the simultaneous occurrence of a double mastoiditis, was the profound septic condition, and mental derangement. In my experience I have never before seen a patient so overwhelmed with sepsis and so extremely ill from a simple acute suppurative mastoiditis.

Case III. Acute Suppurative Otitis Media; Mastoiditis; Operation; Recovery.

Mrs. E. W., aged 48 years I saw in consultation April 7th, 1904. Family history negative. Has just recovered from typhoid fever and returned home five days ago. For about one week has felt a slight uneasiness in the left ear, but no pain or discomfort. Monday night had severe pain in and around the left ear, followed the next day by a profuse purulent discharge but without relief of the pain which has continued ever since. The attending physician recognizing the seriousness of the trouble had her return to the hospital where I saw her on Wednesday noon. Examination; the patient although under the influence of opiates showed signs of extreme suffering. Tympanic membrane greatly congested, œdematous, bulging, with pulsating pus oozing from a perforation in the upper posterior quadrant. Tenderness very marked over the entire mastoid area, but more pronounced over the antrum. No redness or swelling. Temperature 101° F. Pulse 100. Membrane was thoroughly incised at this time but very little pus evacuated. This seemed to give the patient only slight relief from pain for about twelve hours. Late the next afternoon (Thursday) she had a severe chill and her temperature rose quickly to 103° F. Mental condition clear, eyes negative and no tenderness over the jugular. Pain was severe and tenderness over the mastoid pronounced. The next morning,—three days from the first ear pain—I opened the mastoid and found the entire process invaded by pus. There was beginning necrosis in the bone covering the knee of the sigmoid, necessitating exposure of the sinus at that point. There was in

this case a peculiarity in the arrangement of the cells at the tip, which I have never before encountered. Two large tip cells; the larger, containing almost a half dram of pus, was more deeply situated but about on the same level as the one usually found which was in the normal position. An unusually extensive operation had to be done on account of the large size of the mastoid process, requiring a longer time for repair, but she made an uneventful recovery.

Remarks. It will be noted in this case that although there was some uneasiness in the ear for about one week, it was only three days after the first pain in the ear before operation revealed an extensive mastoid involvement. An unusually short period in my experience. There must have been a simultaneous infection of the tympanum and mastoid, otherwise it is difficult to account for the extensive distribution of pus and the beginning necrosis. Another point of interest is the anomalous arrangement of the cells about the mastoid tip. The most internal one was so deeply situated that it might readily have been overlooked and continued to act as a focus of infection. And again the distinct chill with high rise of temperature is very unusual in cases of this character.

Case IV. Acute Suppurative Otitis Media; Mastoiditis; Epidural abscess; Meningitis; Operation; Death.

O. S. G., aged 87 years was seen October 19th, 1903, with the following history. Has been almost totally deaf in left ear for twenty years. About three weeks ago began to have pain in the right ear, with some pain and tenderness behind the ear, lasting for one week. This improved and he was free from symptoms for about a week, when he had severe pain in the ear with marked delirium lasting for one night. This was followed by a profuse purulent discharge with relief of the pain. Although up and around the house, his mental condition continued poor and unreliable. Examination; patient is very feeble, almost totally deaf, right auditory canal filled with pus. Membrane very much congested and swollen with large perforation in posterior and upper quadrant filled with pulsating pus. No redness or swelling over the mastoid but marked tenderness on deep pressure over the antrum. Has a very large right inguinal hernia and enlarged prostate. Temperature 99.5, pulse 90. Under an expectant plan of treatment the discharge diminished and all symptoms seemed to improve until four days later while walking around the house, he suddenly fell to the floor in a stupor and has remained so ever since. Temperature 103.8, pulse 120, and a very profuse creamy discharge from right ear. He was sent to the hospital where under chloroform, the mastoid was opened. The

entire cavity found filled with pus and necrotic material. The tigen antri was destroyed. A collection of pus was found at this point which had broken through the dura and a general meningeal infection had taken place. There was also found an epidural collection of pus with necrosis of the internal table, above and a little behind the upper portion of the sigmoid sinus. There was evacuated about one half dram of pus from this cavity. Thorough search was made but no break in the continuity of the dura could be found at this point.

After providing for thorough drainage from the cranial cavity a large antiseptic dressing was applied. This patient, however, never regained consciousness and died 48 hours later after developing pulmonary cedema.

Remarks. This was a case in which the diagnosis, at my first visit, was unattended with special difficulty and the seriousness fully appreciated; but in view of his extreme age, the other complications and the request of the family, I desisted from operative measures at that time, although it was my *expressed* opinion that such should be done.

To me there are several points of interest in this case; first, the extreme age of the patient; next, the very marked aura manifested at the time of rupture of the dura, verified by the findings at the time of operation; and finally to admit that possibly I was in error in not insisting upon operative interference sooner, at which time the case, as shown by the subsequent course of the disease, offered more favorable opportunity for successful operation.

• **Large Polypus of 25 Years Duration.**—M. TAPTAS—*Gaz. Med. d' Orient*,—1902, No. 10, p. 171, Sept. 1903.

Taptas lays special importance on the consistency of the polypus from a prognostic standpoint. If there are hard points and it is infiltrated with blood, the polypus has a tendency to be transformed into sarcoma.

W. SCHEPPEGRELL.

THE TREATMENT OF TINNITUS AURIUM.*

BY WM. SOHIER BRYANT, M. D., NEW YORK CITY.

The treatment of tinnitus can be divided into local, general, psychic or mind cure, and empirical.

LOCAL TREATMENT.

Local treatment in tinnitus includes treatment for deafness, and should be directed to the removal of the slightest perceptible possible cause. The condition of the mucous membrane is most important and calls for restoration to normal. The more energetic therapeutic or surgical proceedings can be reserved until their necessity has been demonstrated by the failure of the milder measures. Too energetic treatment may increase tinnitus or cause it in cases where it did not previously exist.

In a very large proportion of cases of tinnitus the sound conducting mechanism or middle ear is at fault, and in the majority it is wholly to blame. Errors in conduction require treatment more than any other defect in the often complex condition which gives rise to tinnitus. The treatment of this defect is identical with that for deafness due to the same cause and consists in removing the impediment, whatever it may be. (See *conduction tinnitus*.)

I. OBJECTIVE TINNITUS. The local treatment is chiefly directed to lessening the objective sounds and secondarily to lessening the ear's perception of them. (1) In *external tinnitus* the local treatment is less important than in most of the other forms of tinnitus. When any is required it is chiefly directed to the impaired action of the sound conduction apparatus. (a) In *vascular tinnitus*, small aneurisms or local chronic hyperæmias require ligation of the offending arteries. Any tumors giving rise to tinnitus by compression of the vessels should be removed. Compression of the carotids or vertebals sometimes affects the tinnitus favorably. (b) In *pharyngeal tinnitus* the local treatment is chiefly alkaline, antiseptic or stimulant applications, and the removal of hypertrophies or new growths. (c) In *respiratory tinnitus* the local treatment consists in removing the causes of the altered respiratory sounds. Morphological impediments in the respiratory tract, such as hypertrophies and new growths, should be removed by surgical means

* Read at the tenth annual meeting of the American Laryngological, Rhinological and Otological Society, held at Chicago, May 30, 31 and June 1, 1904.

and dislocations and deformities reduced. (d) *Muscular tinnitus* is not amenable to local treatment except for the relief of local irritation. The treatment is chiefly psychic because the offending muscles are under control of the will. Electricity, hydropathy and general tonic remedies are indicated, and sometimes bromides help.

(2) In *internal tinnitus* local treatment is more important, and is directed to (a) *salpingeal tinnitus*. The tube should be kept free from secretions, etc., the consistency of which should be improved by appropriate local applications. The ordinary treatment of the coexisting nasopharyngitis is indicated, together with applications of adrenal products, nitrate of silver, tannin, and iodine, as the case may require. When the tube is hyperpneumatic stimulants applied to its mouth may aid its physiological closure. If its nutrition can be improved, try electricity or nitrate of silver. (b) In *tympanic tinnitus*, if fluid is present it should be drained by improving the patency of the Eustachian tube. (See *conduction tinnitus*.)

II. SUBJECTIVE TINNITUS. The local treatment is chiefly directed to lessening the perception of the sounds by the ear and the improvement of sound conduction; secondarily to lessening the sounds themselves. (a) In *vital tinnitus* the local treatment is directed to the improvement of sound conduction only (See *conduction tinnitus*.) (b) In *diplacusis tinnitus* local treatment of the sound conduction mechanism is indicated, together with treatment of the sound perception mechanism if that is also defective. (See (3) *sensory tinnitus*.)

In (2) *endotic tinnitus* the treatment is directed to (a) *circulatory tinnitus* in which local treatment is used for the improvement of sound conduction and for lessening local congestion, which requires special attention to the mucous membrane. (See IV. *mucous tinnitus*.) (b) In *myotilitic tinnitus* the local treatment consists in removing any local cause for irritation of the tympanic muscles, such as granulations, foreign bodies or any irritation of the mucous membrane in the tympanum. Electricity or sedatives are indicated. (See V. *contraction tinnitus*.) Counter-irritation of the tube and pharynx, and adjacent skin, should be tried. (c) In *movement tinnitus* the local treatment consists in the removal of the bodies which cause the tinnitus by their motion. When muscular action is at fault attempt to control this is indicated. (See V. *contraction tinnitus*.) (d) *Somatic tinnitus* requires local treatment only for the impaired sound conduction apparatus.

(B) *Neurotic tinnitus* requires under (1) *peripheral tinnitus* treatment of (a) *reflex tinnitus*. This admits of no local treatment other than counter-irritation to pharynx, skin and other parts of the body,

such as sinapisms to back of the neck, hot foot baths, etc., etc. Galvanism can be tried on the offending nerves.

(2) In *optic tinnitus* the treatment is directed locally to (a) *conduction tinnitus*. Here the treatment is for the most part local and similar to treatment for deafness due to impaired function of the sound conducting mechanism. In the atrophic and sclerotic processes of the tympanum and its contents, stimulants and irritants are indicated, carried to a point just short of suppuration. The hot air douche in the external canal is good in some cases, and occasionally electricity is used as a stimulant with good results.

(1) In MYRINGEAL TINNITUS the treatment is directed (1) to allaying congestion and acute inflammation by removing any irritating substances, by improving the ventilation through the tube, by counter-irritation of the nasopharynx, external meatus and the region anterior to the tragus. (2) Sclerosis of the drum membrane should be stimulated by inflation, instillation of irritants through the Eustachian tube and massage to improve nutrition. Talking into the ear through a cone of paper gives good vibratory massage. The malleus may be removed, the malleus and incus or the incus alone in cases when the stapes is free to act except for the hindrance from the other ossicles. (3) Repair of the drum membrane is indicated when there is destruction of tissue. This is done by stimulating the growth of a cicatrix. The periphery of the perforation is stimulated by irritating it with caustic, by scarification and by massage. If repair remains defective, substitution of an artificial membrane is indicated, such as cotton pledget, paper discs, collodion dressings, or variously constructed artificial drums. (4) Cicatrices are to be stretched when they are too tight. This is done by manipulation, massage or inflation. When cicatrices are too loose, they should be contracted by rest and collodion. (5) Adhesions of the drum membrane should be stretched with massage and inflation, or cut. Their absorption can be stimulated by intratympanic injections of irritating substances. (6) Relaxations of the drum membrane like loose cicatrices are contracted by rest and collodion or paper splints. Avoid all inflation. (7) Atrophy requires stimulation by irritants, electricity, and by pneumatic or sound vibration applied at the meatus, also Lucae's pressure probe or Hommol or other forms of massage. Means that might stimulate nutrition must be tried. (8) Calcifications can be excised, and stimulation used to prevent their recurrence. (9) Inward displacements of the drum membrane due to faulty ventilation require for their treatment correction of the tubal conditions. When the displacement is due to muscular action or other contractions, Polit-

zer plugs are indicated, following inflation. If these are insufficient, tenotomy may be tried. When the function of the Eustachian tube cannot be re-established, paracentesis of the drum should be tried and if good results follow the opening can be made permanent. (10) Outward displacement of the drum is to be rectified by proper regulation of the ventilation and drainage of the tympanum, but especially by keeping the meatus free.

II. TUBAL TINNITUS is the most common variety of all. This is the case on account of the influence which nasopharyngeal conditions have on the Eustachian tube, owing to the continuation of the mucous membrane from one to the other and the intimate relations of their nerves and blood supplies. Local treatment of the nasopharynx is indicated in all pathological conditions of the tube, and where the changes in the naso-pharynx are marked their correction is of first importance. The tinnitus is apt to be increased in bed, especially in the morning, which is due to the increased swelling of the mucous membrane, and because stasis and engorgement of the turbinates are common at that time; therefore sleeping with the head high is indicated in these cases. In the chronic conditions massage behind the angle of the jaw applied with the finger or vibrator is very useful. Tubal tinnitus depends on pathological conditions in the nose, most of which are due to the gouty conditions. Second only to these in importance are nasal obstructions which are amenable to local treatment. Tinnitus can sometimes be cured by stopping mouth-breathing alone.

The nasopharyngeal conditions requiring local treatment are: (1) Inflammations, which are treated by cleansing and antiseptic alkaline solutions, etc. (2) Abnormal secretions of the mucous membrane are removed with alkaline and antiseptic sprays. If the secretions are viscid, appropriate treatment is required for their improvement, stimulant and revulsant. (3) Sthenic congestion with red mucous membrane and secretion abundant or nearly wanting and the pharynx dry, are indications for adrenalin. (4) Acute congestive coryzas require soothing alkaline and aromatic sprays. Avoid use of cocaine and adrenal products. Acute conditions of the tube respond with remarkable rapidity to improvement in the like conditions of the nasopharynx. (5) Venous or passive congestions. (6) Asthenic conditions, with pale mucous membrane, sometimes red and dry, occasionally cedematous, require locally, astringent and stimulating applications, such as silver nitrate, Monsel's solution of the persulphate of iron. Adrenalin occasionally does good. (7) Acute secretive catarrhs like summer colds may require essential oils and oily sprays. (8) Atrophic conditions

require stimulating and antiseptic treatment with various applications, such as nitrate of silver, ichthyol, iodine, glycerine, etc., general treatment and electricity, Roentgen rays, or radium. (9) Destruction of tissue. (10) Obstruction due to functional derangement of the erectile tissues of the nose can be treated with suprarenal products, cautery, astringent of the obstruction can be removed by surgical means. Cold applications on the back of the neck are often efficacious in reducing congestion of the turbinates and mucous membrane. (11) When there is loss of tissue the defect should be remedied if possible, and cicatrization encouraged. The mucous membrane can be helped to regain its normal activity by alkaline antiseptic or stimulating applications. (12) Mucous hypertrophies can be removed by surgical means and cauteries. (13) Morphological obstruction should be removed or rectified by surgical means. (14) Adhesions ought to be broken down, especially in the fossæ of Rosenmüller. When the fossæ are closed by adhesions, they require to be broken down with the finger, or bent probe, and afterwards kept free with the probe. Applications of silver nitrate should be used until the surfaces no longer bleed easily. (15) Cicatrizations may require operative interference. (16) New growths and (17) foreign bodies should be removed. (18) Defective muscular action of the tubo-pharyngeal muscles requires faradism and stimulation. (19) Hypertrophies of normal tissue, lymphoid and turbinal, can be removed by surgical means. Avoid use of cocaine, as the irritation it often causes is not desirable.

The good effects of irritating the mouth of the tube are shown by the effects on the structures within the tympanum.

Local Treatment of the Eustachian Tube. The Eustachian tube must perform its normal function of ventilating the drum, and must not cause any reflex or circulatory disturbance. To insure this, use the largest sized catheter possible, in order to produce complete distension of the tube, and to give an air pressure in the tympanum up to 5 lbs. per sq. inch. The Eustachian catheter acts by equalizing the pneumatic tension on the drum membrane, but chiefly by pneumatic massage of the tube and tympanum and by direct massage and stimulation of the mouth of the tube.

(1) Congestion is to be relieved with adrenal preparations. (2) Oedema is to be lessened by adrenal preparations and stimulation, massage, etc. (3) In congestion, inflammation and swelling with more or less obstruction use the Politzer air douche and catheter. The best topical application is adrenalin followed by nitrate of silver applied on a bent cotton carrier and pushed into the tube until

the patient feels it in the neighborhood of the ear. Applications can be made further up in the tube with bougies, but are not usually necessary as the obstruction is generally near the pharyngeal end of the tube. Sometimes milder applications are sufficient. Abnormal secretions of the mucous membrane are to be removed with the air douche, catheter or suction, and the tube can be washed out with mild alkaline and antiseptic solutions when the drum head is perforated. (4) Products of inflammation and (5) foreign fluids are removed in the same way. (6) Hypertrophies require the cautery or astringents and escharotic treatment and adrenal extract, Monsel's solution, nitrate of silver, or electricity. (7) Organic cicatrices require incision and dilatation, or paracentesis of the drum with a permanent opening. Cicatrization and stricture are usually at the tympanic orifice connected with similar processes in the tympanum.

Electric treatment gives excellent results in tubal tinnitus and is useful in cases that have proven refractory to other methods. The negative pole can be applied to the tube, preferably through the nose. It is best made in the form of a Eustachian catheter conical at the tip and in three sizes. It should be insulated to within three-quarters of an inch of the end of the electrode. This bougie will enter the tube probably as far as there is necessity for it to pass, because the obstruction is usually in the cartilaginous tube not far from its pharyngeal end. Duell's electric bougie is very satisfactory in the most refractory cases. (8) Atrophy needs stimulation and electricity. When, in atrophic conditions, the tube remains continuously open and every breath goes through to the drum head, stimulants, local and general, are indicated.

III. In OSSICULAR TINNITUS (1) rigidity of the ossicular ligaments requires stimulation by hot air or hot water, gentle exercise, or massage. (2) Ankylosis requires the removal of the larger ossicles if the stapes is free. Atrophic conditions and resulting ankyloses and ankyloses from cicatrization require stimulation by applications, electricity and massage locally or to the neighboring parts, such as the pharynx, external meatus, irritating tubal injections, etc. The treatment is nearly the same as for adhesive processes. Much can sometimes be accomplished by weighting the membrana tympani, either by cotton pledgets, collodion films or vaseline. (3) Relaxation of the articulations requires rest and splints, made of collodion or paper, and stimulation to improve nutrition. Above all avoid inflation. (4) Adhesions are to be stretched by inflation, or destroyed by section, or absorbed by low grade inflammation. Treatment by sound vibrations and massage is very good. (5) Caries requires removal of the diseased bone.

IV. MUCOUS TINNITUS, first of all, requires proper ventilation and drainage through the Eustachian tube. Abnormal secretions or exudates should be removed by the air douche or catheter, with inflation or suction. If attention to the tubal function is not sufficient, the drum head can be punctured, followed by inflation to expel the exudate. Alkaline tubo-tympanic injections to soften and remove the exudate are good. The conditions of the tympanic mucous membrane are directly dependent on the conditions of the mucous membrane of the Eustachian tube, and this is again dependent on the condition of the mucous membrane of the pharynx, and therefore the treatment is not complete unless the pathological conditions in all these localities are taken care of. (1) Disturbances in the tension of the reduplications of the mucous membrane are important. (A) They may be swollen by congestion and require soothing and depleting measures. (B) They may have lost their elasticity and impede the action of the ossicular chain, and require stimulation, irritation, and massage to improve the nutrition, with the hope of inducing them to resume their normal condition. Or stretching and section are indicated. (C) They may be shortened and hold the ossicular chain out of position and interfere with the acoustic balance, in which case section is required, if stimulation, massage and stretching fail to relax them. (2) In congestion of the mucous membrane, lessen the local cause if possible, and facilitate the return flow of the blood. Ventilation of the tympanum is important. Insufflation of adrenalin and cooling vapors is indicated. (3) In œdema improve the circulation, especially with massage, and insure proper ventilation through the tube. (4) In inflammations, proper ventilation through the tube is of first importance. Remove the cause if possible, treat by anti-phlogistic procedures, and apply adrenalin to the tube. Inflate with caution when the drum is imperforate; use antiseptic applications and douching when the drum head is perforated. Products of inflammation, such as pus or blood, better be evacuated by puncture of the drum membrane. Mucous rarely requires this; serum, never. Evacuate exudation and secretions retained under pressure. Use neutral salt solution for local application for cleansing purposes except when some stronger agent is definitely indicated. In resultant hypertrophic conditions, intra-tubo tympanic injections of ether and water have been found a good stimulant to hasten absorption. (5) Polypi and new growths should be removed. Polypi can be cauterized with nitrate of silver. (6) In sclerosis, stimulation, massage, and irritation to the utmost limit are required. Sometimes it can be helped by stimulation with electricity through an internal electrode, or by tubal injection of

spirits of nitric ether. (7) Atrophy should be treated in much the same way as sclerosis with vapor of sulphuric ether, acetic ether, or chloroform, with iodine, also carbo-iodide. Mixture of sulphuric ether and liq. anæstheticus Hollandi, 6:4; warm albolene and menthol; iodide of ethyl, spirits of nitric ether, Stapler's solution for vaporizer (camphor menthol, turpentine and albolene, equal parts of each), are all useful. (8) After hæmorrhage proper ventilation or paracentesis of the drum is needed to promote absorption.

V. In *contraction tinnitus*, massage, and especially electricity for the offending muscles, is indicated. Tenotomy may aid in relieving the contraction. (1) Spasmodic contractions are most helped by general treatment. Tinnitus when due to irregular muscular action can best be treated by counter-irritation of the pharynx or outer surface of the neck, and by the use of electricity good results are obtained. (2) Contractures and shortenings require local treatment to relieve the source of irritation, or section of the tendon can be tried. (3) Deficient muscular action and paralyses are often improved by faradism applied with an internal electrode, and massage, together with stimulants and general tonics.

VI. In *ADHESION TINNITUS*, inflation and massage are useful in cases of deficient nutrition, or impaired action due to adhesion and contractions. Massage can be applied behind the angle of the jaw, in the meatus by pneumatic massage, to the malleus by probe pressure, or by the finger on the tragus (Hommel massage). The absorption of the adhesions and bands may be stimulated with electricity (galvanism). The negative pole is placed on the external meatus or in the mouth of the Eustachian tube, which is the best way. Hot air or hot water douche to the meatus and intra-tympanic injections of irritating substances (gases or fluids) are useful. The best procedure is to excite a non-infectious inflammation of the tympanum by inflating the tympanum with a vapor of albolene and chloroform, 15 to 20%; or of carbolic acid, 10 to 15%. The operative treatment consists of exploratory incisions of the drum membrane, freeing all adhesions which can be reached (whether of the malleus, drum membrane, stapes, or incus), perhaps even the removal of the incus, malleus, drum membrane, or all together, followed by mobilization of the stapes. I have known good results to follow the removal of the stapes also.

VII. *FENESTRAL TINNITUS* requires inflation, paracentesis, or cutting of adhesions and removal of superabundant tissue. (1) In cases of impaired motion of the stapes and membrana rotunda. (2) In clogging of the fenestræ by products of inflammation, electri-

city against and through the windows has seemed to hasten improvement.

VIII. TRAUMATIC TINNITUS requires rest, removal of the foreign bodies, exudate and blood, and the repair of the wound helped by keeping it as aseptic as possible without irritating it.

IX. MEATAL TINNITUS is treated by remedies appropriate to the kind of dermatitis present. Collections of pus are evacuated with a knife and antiseptic treatment applied. (1) Eczemas and irritation from scaly skin require treatment to lessen the irritation. In the dry form, use applications of lanoline, or lanoline and creoline—2 to 3 minims to the ounce. The following prescriptions are said to be good where the external meatus is dry and has no normal secretion. Their use relieves the condition and produces a reflex amelioration of the tinnitus:

R	Tinc. Ambrae	2.0
	Aether, sulph.	1.00
	Glycerini (pure)	12.00
or R	Tinc. Valerian	2.0
	Aether acet	1.0
	Glycerini (pure)	10.00
S.	Paint in meatus.	

(2) Accumulations of secretion and exudate must be removed by syringe, cotton sticks, or forceps, and the skin treated to prevent their recurrence. (3) Proper ventilation of the outer surface of the drum membrane requires keeping the meatus patent. (4) New growths and hypertrophies are removed with knife, snare, forceps, chisel, or cauteries. Roentgen rays and radium have proven very useful in superficial rodent epithelioma and tubercular alterations, and are also of use in various infections. Morphological obstruction is obviated by operation or dilatation. (5) Foreign bodies are removed by forceps or syringe.

(b) *Reaction tinnitus* requires lessening the irritation of the tympanum caused by conditions or substances not necessarily enough, or so located as to cause defects in sound conduction. These may be fluid, localized swelling, a polyp, or foreign bodies. Intra-tympanic injections of hydrochlorate of cocaine, 5—8 gtt. of 2—5% solution, are sometimes good; and the counter-irritation of the tube, pharynx, or the skin may be useful.

(3) *Sensory tinnitus*. Local treatment is in the line of major surgery, and is directed to the removal of local causes of irritation which usually act by pressure. These may be: (a) Inflammatory. (b) Hemorrhage. (c) New growth. (d) Pressure from without. (e) Pressure from within. Other forms of local treatment are of little avail. But counter-irritation may have some effect. In tinni-

tus from anæmia of the head the patient should sleep with the head low. When the tinnitus is from too much blood supply, sleep with head high.

(a) *Nerve tinnitus* gives slightly more opportunity for local treatment than psychopathic tinnitus. It can sometimes be aided by electricity, preferably galvanism. Electrolysis against and through the labyrinthine windows and via the membranes has been thought to do good. Vibrating tuning forks, used from one to ten minutes, may relieve severe attacks of tinnitus. Use low tones for high pitched finnitus, and vice versa.

(I.) In PERIPHERAL TINNITUS, if caused by drugs, they should be stopped. Local treatment is sometimes required for the following conditions, when present, which is in the form of operative interference: Hæmorrhagic accumulation. Exudates. Inflammations. Pressure from without is treated by alleviation to the sound transmitting apparatus. Pressure from within is best treated by general remedies. Cases of impaired nerve action are stimulated with electricity (galvanic), quinine, strychnine, etc.

Lumbar puncture in labyrinthine cases has given good results (Babinski). This is much more rational than pilocarpin, but blood-letting would probably do as well and not be so unpleasant.

(II.) TRUNK TINNITUS can sometimes be improved by removal of tumors pressing on the nerves, or by the improvement of other pathological conditions at the base of the skull. (III.) PROXIMAL TINNITUS and (IV.) ASSOCIATION TINNITUS can sometimes be helped by local treatment when the tinnitus is dependent on operable conditions.

In (b) *psychopathic tinnitus*, when dependent on operable pathological changes, an improvement may follow local treatment of these intercranial conditions. (a) Inflammations should be treated locally with antiphlogistic remedies, and the products of inflammation removed by drainage. (b) New growths are removed by surgical means. (c) Pressure from within or from without is relieved by surgical means, as in a depressed fracture of abscess.

When, in cases of grave tinnitus, all treatment has been tried and failed, section of the auditory nerve is indicated for the purpose of producing absolute deafness for all sounds objective and subjective; and when the source of the tinnitus can be located peripherally to the proposed point of section and when hearing by bone conduction is unimpaired, which is proof positive that the function of the auditory nerve and root is not much impaired and therefore not the seat of the tinnitus.

The operations done on the auditory nerve for the relief of tinnitus have been a failure in the past partly because the cases selected

were not suitable and partly on account of the methods followed. Cases with much diminished bone conduction are not suitable for operation because the seat of the tinnitus can not be definitely located in any special part of the course of the auditory nerve, its roots or centers. Three routes have been tried: (1) Via the ordinary cerebellar route, (2) via the mastoid process, and (3) via the cochlea. There is another route more safe and sure which I hope to describe on some subsequent occasion.

SUMMARY OF CLASSIFICATION.

TINNITUS.

I. OBJECTIVE.

(A) VIBRATORY.

1. *External*: (a) Vascular.
 (b) Pharyngeal.
 (c) Respiratory.
 (d) Muscular.
2. *Internal*: (a) Tubal.
 (b) Tympanic.

II. SUBJECTIVE.

(A) PHONETIC.

1. *Exaural*: (a) Vital.
 (b) Diapycusic.
2. *Endotic*: (a) Circulatory.
 (b) Myotolitic.
 (c) Movement.
 (d) Somatic.

(B) NEUROTIC.

1. *Peripheral*: (a) Reflex.
2. *Otic*: (a) Conduction:
 - I. Myringal.
 - II. Tubal.
 - III. Ossicular.
 - IV. Mucous.
 - V. Contraction.
 - VI. Adhesion.
 - VII. Fenestral.
 - VIII. Traumatic.
 - IX. Meatal.
- (b) Reaction.
3. *Sensory*: (a) Nerve Tinnitus:
 - I. Peripheral.
 - II. Trunk.
 - III. Proximal.
 - IV. Associated.
- (b) Psychopathic:
 - I. Central.
 - II. Illusional.
 - III. Hallucinational.
 - IV. Delusional.

UNILATERAL HYPERÆSTHESIA OF THE TONGUE AS A CONCOMITANT OF ACUTE OTITIS MEDIA.

BY LENNOX WAINWRIGHT, M.D., FOLKESTONE, ENGLAND.

In the treatment of acute otitis media one has frequently to decide on paracentesis, and in those cases where patients are intolerant of examination and nervous, every symptom that points to tension is of value in making the diagnosis.

In five cases during the last two years I have noted patients who have complained of stinging pain in the tongue and tingling of that organ on the same side as the ear trouble; this has been more marked when lemon or hot drinks have been taken. In all the five cases in which this symptom was remarked fluid pressure was amply demonstrated by operation.

The pain appears to me to be localized in that part of the tongue supplied by the chorda tympani nerve on the affected side. If it be allowed that this hyperæsthesia is the result of pressure in the middle ear and its frequency noted by other observers, it may become an additional and helpful guide to operation in ear trouble.

One case was very interesting as the child was only 3½ years of age, extremely nervous, and the parents refused to allow any examination without an anæsthetic. The earache was not severe, temp. 103° F. The mastoid tenderness was doubtful owing to exaggeration on the part of the child and assistance from the nervous parents; there was some complaint of parietal headache; I gave some lemon drink and at once the child complained of a stinging in the tongue on the same side as the earache. Having examined the tongue to exclude fissure and sores, I concluded this sensation was the result of pressure in the middle ear. On examination under anæsthetic the drum was seen to pulsate. Paracentesis was performed, the fluid of a serous kind which welled up in the meatus on puncture amply justified the diagnosis of pressure.

In lesions of the facial nerve before the chorda tympani leaves it the gustatory function is lessened or even abolished in the anterior two thirds of the tongue on that side. (Hovell.)

I believe that unilateral hyperæsthesia of the tongue in acute otitis media is a new sign.

CHEVALIER JACKSON'S TRANSILLUMINATOR WITH SOME MODIFICATIONS.

BY OTTO T. FREER, M.D, CHICAGO.

In THE LARYNGOSCOPE for September, 1903, page 672, Dr. Chevalier Jackson describes a simple transilluminator whose great illuminating power and simplicity of construction at once appealed to me as an advance over anything of the sort yet devised. I have added a few details to his instrument which seem to me improvements.

For the Vetter current tap I have substituted a simple plug to fit an Edison base.



With Dr. Jackson's transilluminator as made at present it is necessary to shut off the current at the lamp-socket containing the plug when the light grows too hot for the patient or when the physician wishes to escape being dazzled by the light when it is withdrawn from the mouth or changed from underneath one superior orbital margin to under the other, when the illumination of the frontal sinuses is compared. For greater convenience therefore I have added a spring switch on the handle by means of which the light may be turned on or off by pressure or releasing the spring by the tip of the finger.

I have changed the eight candle power light for a still more powerful one of twelve power, 100 volts, and if eighteen candle power be desired it may be obtained by using a twelve candle power 100 volt

light on the 110 volt circuit. A 100 volt light used in this way is less durable than one made for the 110 volt current, but will last many hours. Twelve candle power is however enough for all but extraordinary cases.

As it is desirable to increase or diminish the brilliancy of the light I have inserted a rheostat in the circuit between the plug and light so that the latter may be turned down or up until the exact degree of light is reached that shows most markedly the contrast in illumination between the two sinuses compared.

In order to illuminate as much as possible the frontal sinus alone and avoid causing the tissues of the brow to glow too brightly, the frontal sinus covering for the light has been tapered at its end to a cylinder of about the size of a fountain pen cover. A tube as small as this may be placed accurately back of the supraorbital margin directly under the floor of the sinus nearly confining the illumination to this. For this last modification and the use of the rheostat I am indebted to the verbal suggestions of Dr. C. G. Coakley of New York.

The prominent sharp spine of glass usual on incandescent light-bulbs I have had removed. The bulb is also made shorter than Dr. Jackson's in order to fit small mouths. A glass cylinder accompanies the light and may be slid over it to reduce the heat.

I think that these modifications increase the efficiency of Dr. Jackson's transilluminator.

A Lingual Tonsillotome—O. LITWINOWICZ—*Monatsschr. f. Ohrenh.*, (Berlin), March, 1904.

The instrument is similar to Schutz's adenotome, but somewhat less curved.

SIDNEY YANKAUER.

A Device for Determining the Patency of the Nostrils—GLATZEL—*Monatsschr. f. Ohrenh.* (Berlin), Jan., 1904.

The author describes a device for determining the patency of the nostrils, which is especially useful where a large number of persons are to be examined, as in military examinations. It consists of a polished sheet of metal, marked with certain measuring lines, which is held under the subject's nose, so that he can breathe upon it. The moisture of the breath condenses upon the metal surface, and the size of the spots so made are measured. The author gives many arguments to prove the value of the apparatus.

SIDNEY YANKAUER.

SOCIETY PROCEEDINGS.

THE LARYNGOLOGICAL SOCIETY OF LONDON.

Eighty-Ninth Ordinary Meeting, April 8th, 1904.

P. McBRIDE, M.D., F.R.C.P.Edin., President, in the Chair.

Membranous Ulceration of Fauces in a Woman æt. 36 of Six Week's Duration.

Shown by DR. STCLAIR THOMSON. Over the upper part of the tonsil on each side was a well-defined ulcer, with sharp edges and coated with an easily detached pultaceous membrane. This resembled diphtheritic membrane so much that the patient had been sent in the first instance to the Fever Hospital, and it was only after leaving there and on the persistence of the condition that she came under observation.

The glands were enlarged and only slightly tender. There was no marked dysphagia and no fever. There was a somewhat similar condition on the lingual and pharyngeal tonsil. There was no history of syphilis.

At first it was thought that it might be a case of Vincent's angina, but a search for the fusiform bacilli and the spirilla had been negative. A week ago some coppery spots had been noticed, and the patient was given specific treatment. Since then the ulcers had commenced to clear, and a mucous patch had come out on the soft palate. It was therefore thought that the case would prove to be one of syphilis.

MR. BABER thought from the appearance this was a case of syphilis.

DR. BALL said he was able to see a few reddish-brown papules, which seemed to him confirmatory of a syphilitic diagnosis.

DR. THOMSON said that under specific treatment the case had improved during the last week, although for five weeks previously the condition had remained stationary. There were some papules on the shoulders and on the side of the nose which looked coppery. There was a condition similar to that on the fauces on Luschka's tonsil and on the lingual tonsil.

Case of Chronic Laryngitis (Pachydermia).

Shown by MR. DE SANTI. A woman, æt. 43, who gave the history of continuous hoarseness of fifteen years' duration. She was a married woman with several children, and there was no history or evidence of syphilis or tubercle. She suffered from winter cough, and lately had been troubled with breathlessness. She also complained of a numbing sensation in the left arm and left side of the head of four years' duration.

Examination of the larynx revealed considerable general thickening and infiltration, particularly of the inter-arytenoid space.

There was also a small nodule on the right processus vocalis, with a slight corresponding depression on the opposite side. The left cord did not move so freely outwards in deep inspiration as the right one.

The patient was brought before the Society to ascertain the opinion of members as to the question of treatment. Mr. de Santi personally considered the best thing to be to leave the patient alone.

DR. HERBERT TILLEY reminded the Society of a similar case which he had brought forward, and in which after several times removing the inter-arytenoid hyperplasia and then rubbing in strong nitrate of silver (grs. 80 ad 5j) the condition had practically disappeared, and the patient's voice was now excellent.

In his (the speaker's) case the patient was not addicted to alcohol, neither was there catarrhal or suppurative lesions in the nose.

DR. LACK was rather surprised to hear the remarks on this case. He had shown one case at the Society, and his own—and he thought the general—experience was that, however much one might punch out the hoarseness always recurred, the relief obtained being only temporary. He thought Dr. Tilley was taking an unduly optimistic view which was not warranted by the facts. The only treatment which seemed to do good was to treat the upper air passages, and to remove any disease in the nose or post-nasal space. In any case the result of treatment would not be very great.

DR. THOMSON said he had watched a similar case five years ago in an alcoholic bus-driver, who once every year had a piece punched out of the inter-arytenoid space, and this kept him going for twelve months. This man was undoubtedly suffering from syphilitic disease.

DR. DUNDAS GRANT said that the treatment of the nasal discharge was most important. At the present time he had under observation a woman in a similar condition. She was under the care of his late colleague, Mr. Lennox Browne, for twenty years, who was under the impression that the patient was suffering from syphilis. She always benefited by having a big swab forced down the larynx moistened with a solution of sulphate of copper. He himself had introduced the nasal treatment with great benefit in her case, and he had substituted salicylic acid for the cupric sulphate. He believed, however, the introduction of the nasal treatment had been *the* means of improving the patient's condition.

The PRESIDENT said one point of interest in the case had particularly struck him. Pachydermia laryngis, so far as he knew, was confined to the inter-arytenoid space and vocal processes, but in this case there was also a similar appearance at the anterior commissure. He would like to hear from Mr. de Santi whether he had met with this condition in cases of pure pachydermia laryngis?

MR. DE SANTI thought the proposed methods of treatment were useless, and he quite agreed with Dr. Lack that these cases should be left alone. His reason for bringing the patient before the Society was in case he had made an error in diagnosis, and something in that case might have been done. As regarded iodide of potassium,

he had used it from the beginning of the case, *i. e.* for three weeks, and it only made the patient extremely uncomfortable. He did not intend to continue it. He could not account for the stenosis of which the patient was complaining. In reply to Dr. McBride he had noticed the thickening in the anterior commissure. Doubtless he had missed it, but was very interested in hearing from Dr. McBride of its existence. He would keep an eye on the woman and see if anything further happened. He would give her some nasal wash, but there was no gross nasal lesion.

Case of Double Abductor Paralysis of Traumatic Origin.

Shown by DR. LAMBERT LACK. The patient cut his throat eighteen months ago, almost completely dividing the trachea at its junction with the larynx. Apparently both recurrent nerves were injured, as there has since been complete bilateral paralysis. The wound in the trachea was followed by considerable cicatricial contraction. This was partially overcome by the introduction of a T-shaped tracheotomy tube. The present condition is as follows: There is an external opening into the trachea large enough to admit the tip of the little finger. The edges of this opening are healed, and it shows no signs of contracting. Just above it there is a narrowing of the lumen of the windpipe. There is bilateral abductor paralysis complete on the left side, with but slight movement of the right cord. The patient for the past three months has been able to breathe through the mouth, the opening in the trachea being closed by broad bands of strapping. He is quite comfortable while quiet or on gentle exertion, but suffers from dyspnoea when he works, walks fast, etc. The dyspnoea apparently depends on the obstruction produced by the abductor paralysis and is not due to the stenosis of the trachea.

Dr. Lack asked could anything be done in the way of operation extra- or intra-laryngeal to relieve the slight obstruction that remained.

Would it be safe in the patient's present condition to close the external fistula, which he was very anxious to have done?

DR. WATSON WILLIAMS asked if at the onset there was complete paralysis on both sides, before the present condition of bilateral abductor paralysis supervened. He presumed that the condition of the glottis was now that of considerable narrowness compared to what it was at the time of the so-called accident, for the bilateral abductor fibres might have re-united, and under these circumstances he thought it possible that one might eventually get more complete restoration of movement by the return of abductor power, in which case it was important not to do anything which would interfere with the activity of the glottis.

Sir FELIX SEMON was particularly interested in the question of the cause of the bilateral abductor paralysis in this case. Surely it must have been a very extensive cut which could have reached both the recurrent laryngeal nerves, and it was not easy to see why the other neighboring structures should have escaped. Probably the most plausible explanation was that there was a good deal of new formation of cicatricial connective-tissue in the neighborhood of the recur-

rent laryngeal nerves which gradually compressed the nerves. Concerning the question of treatment he should feel inclined to leave matters *in statu quo*. Although the man could breathe if the opening was closed, he should advise the latter to be left as it was, otherwise he would be in constant danger of sudden stenosis in the event of occasional catarrhal swelling of the parts. As to intra-laryngeal operations, experience in similar cases had clearly shown that they were not very useful. He would remind them of the fact that when a vocal cord was removed in malignant disease of the larynx a cicatricial band usually formed in the region of its former situation, so that extirpation of a cord was likely to be followed by at least as great, if not greater, amount of stenosis than at present existed.

DR. McBRIDE asked Dr. Lack if there had always been in this case greater movement of the right cord than of the left. The former moved to an appreciable extent—outwards and inwards—whereas the left cord was perfectly at rest. This condition was best seen when the patient attempted to laugh.

DR. LACK supposed it was best to leave the patient alone, but he had shown the case in the hope of getting some suggestion. The patient was very anxious to have something done.

Case of Tubercular Laryngitis in a Girl *æt.* 13, who was also Suffering from Pulmonary Phthisis.

Shown by MR. TOD. There was distinct evidence of tubercular disease of the left apex, which was improving under treatment. The mother had noticed that the voice was getting hoarse during the last two months. An examination of the larynx showed extensive papillomatous infiltration of the arytenoid space, and the left vocal cord was hidden by a red swelling which projected from the ventricle, and which was presumably tuberculous infiltrated mucous membrane. Mr. Tod said he showed this case owing to the rare association of tubercular disease of the larynx with pulmonary phthisis in a child of that age.

Three Cases in which Resection of the Septum had been Performed to Remedy Deviation of the Nasal Septum.

Shown by MR. HUNTER TOD. These cases were operated on, one eight weeks ago, and the other five weeks ago. They all had complete obstruction of one side of the nose, and in one case there was tilting of the nose to the opposite side, producing external deformity. One of these cases had only been in the hospital 24 hours, and the other two 48 hours, after which period they were able to return to their ordinary occupation of life. Mr. Tod, in describing the operation, said that he first plugged the nose on the obstructed side with a very strong solution of suprarenal and cocaine. The patient was then anesthetized in a recumbent position. By the time the patient was ready for operation the suprarenal-cocaine solution had so constricted the vessels that a very good view of the nasal cavity could be obtained, and the operation was rendered bloodless—a point of great importance. The mucous membrane was incised by a curved incision along the floor of the nose as far forward as possi-

ble, and was pushed back in order to expose the cartilage. The cartilage was then incised obliquely through its substance, care being taken not to pierce the mucous membrane on the opposite side. This was the only difficult part of the operation, and was best prevented by prising up the cartilage with the knife whilst cutting it through. The cartilage was easily separated from the mucous membrane on the opposite side by means of a blunt probe or the handle of a scalpel. The cartilage with the mucous membrane on the obstructed side was then punched away with a special pair of forceps which Mr. Tod had made. As much of the septum was removed as permitted a good view of the middle turbinate and the nasal pharynx, and if necessary part of the vomer and ethmoidal plate were also removed. The septum now to a great extent consisted of the single layer of mucous membrane of the opposite side which could be seen flapping to and fro during respiration. The operated side was now plugged with gauze to prevent hæmorrhage, which, after the use of suprarenal extract, might be very severe. The plugging was removed in 24 to 36 hours. If the operation was successful the patient could now breathe freely through the previously obstructed side. The after treatment consisted in the daily douching of the nose with a simple alkaline lotion, and if there was any formation of crusts on the wound surface it was advisable to spray the nose with an oily fluid.

The PRESIDENT said that the Society was greatly indebted to Mr. Tod for showing these cases. They were the first series shown in this country, so far as he knew, and they seemed most satisfactory results.

His only regret was that the patients were not provided with probes as it would have been interesting to feel the consistence of the tissues. It looked as if there were more than one layer of membrane and as if some regeneration of cartilage had occurred.

MR. BABER said he was very interested in these cases, and asked whether Mr. Tod had only removed the cartilage or also some of the bone. In one of the cases behind the portion removed there appeared to be a ridge, probably bony. In that case it was a question whether a further operation was required to make that side clearer.

DR. PEGLER said there seemed to be no question as to the simplicity of the after-treatment in the method exemplified by Mr. Hunter Tod's cases; he felt bound to admit on the other hand that in the method of Moure, examples of which he hoped to show at the next meeting, considerable care in the after-management was necessary, especially in the use of the splint. At the same time the sphere of application in Moure's operation was larger; he had employed it in almost every conceivable form and degree of deflection, and even when the latter was extended back to the osseous area in the posterior third of the vomer—the most difficult variety of all—a successful result might be relied upon. In Mr. Tod's cases the stiffening of the mucous membrane was very marked, and one could not help being astonished at the degree of deposition that had taken place in the period that had elapsed since the resection.

DR. SCANES SPICER said that the class of cases for which Moure's, Asch's and similar operations were best suited and the ones for

which the fenster operation was suited, were quite different. This latter operation had been done in England for at least the last ten years for those cases in which the cartilage projects into the vestibule at its most anterior margin, *i. e.*, where the obstruction was in the vestibule itself, and it had been a common practice with many British rhinologists to make a longitudinal incision over the edge which projected and to detach the projecting and obstructing front of the cartilage from the surrounding tissues—often a matter of some difficulty—and resect as much of the septum as was necessary in order to completely clear the obstruction. He had not thought it necessary to publicly exhibit such well-accepted proceedings, but apparently their exhibition met a want. He congratulated Mr. Tod on these successful instances of a sound procedure. Moure's operation was suitable for those cases where the greatest "bulge" was much farther back.

DR. WATSON WILLIAMS was extremely interested in these cases. He had done these operations himself and the results had been satisfactory in most of them. There were one or two questions he would like to ask: firstly, was there any objection to resorting to this procedure in the case of young children, or would it materially interfere with the development of cartilage subsequently and thus cause serious deformity? He had a small boy of twelve, on whom he did the operation, as being the best available procedure, but he did as little as possible, owing to his anxiety as to the result in later years. He also wished to know whether any of those members who had done the operation had commenced with the removal of the cartilage absolutely from the anterior free border, and, if so, had the results been unfortunate. He asked this because it seemed to him very tempting to start at that border and so avoid the difficulties that are met with in getting a free edge farther back.

DR. HILL asked Mr. Tod if he would vouch for it that the after-troubles due to excessive repair, which were so emphasized recently by Sir Felix Semon as occurring in septal operations, were less in his method of resection than in the more crude operations which they usually performed. That in itself would be a good reason for adopting it, although it was a little more lengthy and perhaps more difficult. He agreed with Dr. Spicer that an operation somewhat similar in principle had been carried out for many years in this country, but he contended that these slight resections, even when they involved the whole thickness of the septal cartilage, differed most markedly in extensiveness and technique from the "fenster" operation under discussion.

DR. D. GRANT asked, with regard to the case in which Mr. Tod thought the result was least good, if he was able to detach the muco-periosteum from the very deep groove on the right side of the septum. This was one of those septums which he called by the name of "crumpled" as the result of severe traumatism. There was a round convexity on the one side and a deep groove on the other, and it was difficult to take off sufficient of the side with the single convexity without making a perforation. His plan was to take away as little as possible to produce sufficient breathing space. But if one could feel certain that the muco-periosteum could be detached

sufficiently from the side on which was the deep groove, one might go more boldly to work than had hitherto been his habit in these cases. It was a matter for regret that Dr. Spicer had not brought forward within the last ten years his results. He must say that in some of his cases where disappointment was his chief feeling at the time of the operation, these very same cases had been reported to him months and years afterwards as being amongst his most brilliant successes, whereas in other cases the results seemed splendid at the time but were disappointing in their later history.

MR. THORNE said he congratulated Mr. Hunter Tod; any operation which did away with the use of splints and reduced the length of after-treatment was to be commended.

DR. FITZGERALD POWELL said that Mr. Tod's cases certainly showed good results, upon which he congratulated him, but the operation could in no sense be described as a new one. No doubt many of the members had practiced it, and he had done so himself for a long time. He considered it most useful in those cases of deviations or spurs near the anterior portion of the septum. He thought it would be more interesting if the patients were shown before and after the operation.

DR. BALL agreed with Dr. Scanes Spicer that this operation had been done pretty frequently in this country for the last ten or twelve years. At any rate, he had employed this method in dealing with many cases of deformed septum for several years, and he had no idea until lately that there was supposed to be any novelty in the method. He first incised the mucous membrane on the convex side, and then, if the cartilage was not already split, which it often was at the site of a sharp bend, he incised the cartilage, taking care not to perforate the mucous membrane on the opposite side. He then separated the mucous membrane of the opposite side with a blunt periosteum elevator. In some cases the mucous membrane of the convex side could be turned back and preserved. The cartilage was removed bit by bit with a punch forceps as far as was necessary to restore the patency of the passage. Where the anterior end of the cartilage was deviated he removed the cartilage right down to the free edge. No deformity or ill effect resulted from this proceeding. It was occasionally possible to stitch up the mucous membrane on the convex side, but this was mostly impracticable, and was unnecessary.

DR. THOMSON said he had performed a similar operation, but with complete submucous resection of the deviated septum, extending from a few millimetres within the orifice to the bony vomer. He had separated the two mucous membranes, taken out the divided portion of the septum, and then put the two muco-perichondria together again. In a case in private practice operated one week the patient was able the following week to go to a ball—so rapid was the recovery by this method. There was no scabbing, except along three little stitches which he had put in in front to secure the edges to the mucoperiosteum. These deviations were so extensive that one patient could not inspire at all through one nostril, with the result that she breathed through one side of the nose only. He had not yet shown or published his cases. In them the septum consisted only of mucoperiosteum, and in forced respiration it fluttered like a sail in the

wind and had done so for three months now. One case was done at the end of November, and the septum could even now be seen quivering, but there was no disfigurement, and the patient seemed none the worse for it. This mode of operation introduced several great improvements—(1) Thoroughness of removal of stenosis; (2) impossibility of recurrence; (3) abbreviation of after-treatment; and (4) avoidance of risks of adhesions or atrophy and scabbing.

Mr. Tod, in reply said he was pleased his cases had afforded so good a discussion. He was well aware that resection of the septum was not a new operation, but, so far as he knew, it had not been done in this country. He had first seen it performed four years ago in Berlin by Tansen, who operated under the local anæsthesia of cocaine, the patient sitting in a chair. He thought the operations described by Mr. Ball and Dr. Scanes Spicer could hardly be considered a resection of the nasal septum; they appeared to be the mere cutting away of a cartilaginous projection of the anterior part of the septum. He agreed with Dr. Spicer that the more anterior the deviation, the simpler became the operation, and that this operation was eminently adapted for cases of deviation of the anterior part of the cartilage, but at the same time the resection of the cartilage could be carried back as far as might be necessary, even removing part of the vomer and ethmoidal plate. In those cases referred to by Dr. Dundas Grant, where there was a "kink" in the septum, and where, after an injury or cauterizing of the septum, the mucous membrane was adherent to the cartilage, it was sometimes quite impossible to prevent a perforation. In answer to Dr. Hill, Mr. Tod said that the after results were excellent as a rule. In one of the cases shown to-night a slight adhesion had occurred between the inferior turbinate and the raw surface of the septum, but three weeks after the operation this had been removed and the patient, as could be seen, now had plenty of breathing room on both sides of the nose. In answer to Mr. Pegler, who suggested that all the cartilage had not been removed, he could state with certainty that he had done so. After the operation the mucous membrane of the opposite side could be seen flapping to and fro during respiration. A month or so after the operation, owing to the stiffening of the septum, it was difficult to tell how much of the cartilage had been removed; it always appeared as if far less had been removed than had actually been the case. With regard to removing the mucous membrane, if the nose was narrow, it gave more room. In some cases the mucous membrane was very thick, and if it was removed and eventually replaced by scar tissue the amount of room gained was considerable. The chief objection was the tendency for crusts to collect on the wound surface. In the worst cases the patient might not get rid of this trouble for nearly two months; in other cases the healing was rapid and there was no discomfort. He had not done this operation on children, partly because he thought the smallness of the nose would make the operation very difficult, partly from fear of producing some external deformity from arresting the development of the septum. He had removed the whole of the cartilage in several cases where the septum had been dislocated anteriorly, but afterwards, in two cases, there was a slight dipping in and extreme mobility of the tip of the nose; in consequence he

thought it would be wiser not to remove the anterior margin of the cartilage. Mr. Tod, in conclusion, said he would be very pleased to show some cases to the Society before operation and again after the operation had been performed.

Case Illustrating the Permanence of a Successful Operation in the Case of Extensive Adhesions of Soft Palate to the Posterior Pharyngeal Wall.

(For full notes of case *vide* 'Proceedings Laryngological Society,' March, 1903.)

The PRESIDENT said the Society was obliged to Dr. Tilley for showing the case, which seemed to illustrate all that was claimed for it.

DR. POWELL said that he was rather inclined to question the utility of this operation at their last meeting, and in taking up this attitude he was supported by the fact that at a former meeting the opinion of the Society was strongly expressed to the effect that these operations were not desirable owing to the poor results generally obtained. This opinion was just as strongly contradicted by the result of operation in this case, which was excellent. He would like to know whether the operation was done simply to give the woman breathing space or to relieve any of the other severe symptoms that occurred, such as pain in the occiput or back of the neck.

MR. DE SANTI said the case of his to which Dr. Tilley had referred in his opening remarks was done six years ago, and the result was as good as that seen in this patient. He saw his patient once a year, and next time he saw her she should be brought to the Society again.

DR. HERBERT TILLEY brought the case forward again because at the last meeting of the Society a member had expressed some doubt as to whether any operative interference was of real permanent value in these cases. The operation was performed thirteen months ago, and in place of a small opening between the naso-and-oropharynx which would only admit a probe, there was now a large, permanent, and free communication. The chief symptom before the operation was the accumulation and discharge of mucus from the anterior nares.

Disease of Fauces Simulating Syphilis.

Shown by DR. KELSON. (a) A man *æt.* 25, who for eighteen months had been suffering from whitish patches on a red, inflamed-looking base on tonsil and palate; also (b) a man *æt.* 40 who had similar patches in a similar position for thirteen months. These cases, together with that of a girl shown in May, 1903, had the following points in common:—

1. There was no history of syphilis or any other sign of it to be found after careful search.
2. The disease was of over a year's duration, getting almost well, then reappearing.
3. It was superficial in character, leaving no cicatrices, and the nose and larynx were not affected.
4. Antisyphilitic remedies had no effect on any of them.

Case of Melanotic Sarcoma of the Soft Palate.

Shown by DR. BALL. The patient, a man æt. 53, had noticed some black patches on the palate about two years ago. Some seven or eight months ago a growth commenced on the soft palate, but as it gave him no inconvenience he took little notice of it until three weeks ago, when it bled. He then showed it to his doctor. There is now a dark-looking, flattened, somewhat mushroom-like growth on the middle of the soft palate, covering an area about the size of a shilling. There are numerous black patches on the hard and soft palate and on the upper gums. There is some slight glandular enlargement under the chin near the middle line. He has lost about a stone in weight during the last twelve months.

MR. DE SANTI said the question before the Society was whether any operation could with benefit be undertaken. Any one with experience of melanotic sarcoma knew that it was the most malignant form of sarcoma. He had always taught that if a melanotic sarcoma in any part of the body had reached the size of a filbert nut there was an almost certainty of numerous secondary growths being present in some part of the body. He should say that the prognosis was a very poor one indeed, taking the nature and size of the tumor into consideration, but he thought it would be right to give the man some chance by doing an extensive operation on the palate and removing the new growth freely. The question was whether any operation could be done with regard to the patches scattered on the palate and gums. Personally he should leave these and tackle only (and freely) the growth in the palate. It would be interesting to hear the result of operation and the future progress of the case. Melanotic sarcoma was far from common in any part of the body, but particularly rare in the palate.

The PRESIDENT had not seen a case like this before.

Shears for Division of the Thyroid Cartilage.

MR. WAGGETT showed a pair of laryngotomy shears for division of the thyroid cartilage without damage to the vocal cords. The shears have strong thick blades set at a right angle to the handles. The inner blade is inserted from below through an incision in the cricothyroid membrane. The outer blade is provided with a projecting tooth at its distal end. This tooth enables the surgeon to fix the blade exactly in the mid-line of the larynx before cutting through the thyroid cartilage. It was impossible to injure the vocal cords with this instrument, which had been found very efficient in half a dozen cases.

MR. DE SANTI said that in the last edition of Trevis' 'Operative Surgery' he saw that it was laid down that no form of bone forceps whatever should be used in doing the operation of thyrotomy, but that a saw should be used. He thought this must be an error or an entire oversight on the part of the author. It was the general custom to use some form of cutting forceps to divide the thyroid cartilage in the middle line, except in those cases—and they were a majority—in which the thyroid cartilage was ossified, in which case a suitable saw might be used.

Sir FELIX SEMON said that in a certain number of cases to which Mr. de Santi had referred, and their number was great, one was not able to cut with any scissors. The late Dr. Eugen Hahn had presented him with an excellent pair of bone scissors, with which he had done a good many cases, but they had proved insufficient in other cases. If one used too much force, particularly in operations for malignant disease in elderly people, one ran considerable risks of fracturing the thyroid, owing to the ossification of the cartilages. With regard to the saw, it was sometimes quite a difficult thing, owing to the mobility of the larynx, to saw through an ossified cartilage, even when the larynx was fixed by the fingers of an assistant. Mr. Waggett's instrument seemed to him a very useful one, and he should give it a trial in his next operation.

Aseptic Forehead Mirror Handle.

MR. WAGGETT showed an aseptic forehead mirror handle, easily detached so as to be sterilized between two operations, and thus enabling the surgeon to adjust his mirror without needing to recleanse his fingers during an operation.

MR. BABER thought that clips for attaching to the reflector were in common use; he had himself used them for a long time—a little piece of sheet zinc bent double and clipped on to the edge of the mirror. This could be sterilized, and saved touching a dirty reflector during an operation.

The Treatment of Chronic Hypertrophic Pharyngitis by means of Scarification—M. E. ESCAT—*Arch. internat. de laryngol. d'otol. et de rhinol*—1903.

This affection according to Escat is characterized by ordinary chronic catarrhal lesions, by hypertrophic sclerosis of the mucous chorion and by hypertrophy of the pharyngeal muscles. The symptoms are those of chronic pharyngeal catarrh accompanied by pharyngismus and nausea. The ordinary treatment is very long.

The method proposed by Escat is especially applied to cases in which the lesion is marked, and in which the subject desires a more radical treatment.

The scarifier of Escat has eight blades, inserted in a row and separated by intervals of 2mm. After local anesthesia, scarifications are made longitudinally to the anterior pillars and to the uvula; then transverse scarifications are made from above downwards. Fifteen days later, scarifications are made to the spinal wall and to the posterior pillars.

W. SCHEPPEGRELL.

SELECTED ABSTRACTS.

The Submucous Resection of the Nasal Septum—FELIX COHN (N. Y.)—*Med. Record*, Dec. 26, 1903.

Attention is again called to Krieg's method of removing portions of the nasal septum, in cases of deflection and thickening. Instead of employing the sitting posture, as recommended by Krieg, the author places the patient on the back with the head slightly elevated and turned away from the deviated side. Local anæsthesia, with adrenalin has sufficed in most of the cases.

The incision is made through the whole length of the mucous membrane as near to the point of greatest convexity as possible and only through the mucous membrane. Care in not cutting the cartilage is of value in enabling the more rapid separation of the mucous membrane from the cartilage. The mucous membrane is then held back and the cartilage is nicked and gradually separated from the mucous membrane of the opposite side. After this is done, an incision is made above parallel to the ridge of the nose in order to prevent an external deformity; a second incision is made below, and the cartilage finally dissected out posteriorly. If necessary, the bony portion of the septum must be removed with a small bone forceps.

The mucous membrane is then carefully replaced, and if torn, one or two sutures may be added to keep it in place. The nose is then lightly packed with gauze and patient kept in bed for a day or two. The operation may take as long as two and a half hours. Perforations will occur in about twenty per cent of the cases.

M. D. L.

Nasal Polypus—DUDLEY S. REYNOLDS—*The Cincinnati Lancet, Clinic*, Jan., 1904.

In recurring nasal polypi, the writer is of the opinion that to bring about lasting relief it is necessary to remove the obstructing inferior turbinate. Even in some cases he finds it advisable to remove in addition the middle turbinal body.

For the removal of the turbinates he derives more satisfaction in the use of a narrow saw than from the cautery or scissors. He speaks of the saw of either Holmes or Jarvis as answering the purpose well, but would somewhat modify the arrangement of the teeth so that they present a vertical posterior wall, with every third notch twice as deep as the others.

STEIN.

A Case of Tonsilla Pendula—H. BEZDEK—*Wien. klin. Wchnschr.*, May 5, 1904.

The author reports a case of accessory tonsil occurring at the usual site, the upper pole of a hypertrophied tonsil.

SIDNEY YANKAUER.

Fatal Hemorrhage Following Adenotomy—M. BURGER—*Revue Heb. de Laryngologie, D'Otologie et de Rhinologie*—Jan. 30, 1904.

In March, 1902, Burger removed the tonsils and adenoid vegetation, at the same sitting, from a child of 11 years. The adenotomy was done with the curette of Kirstein, and the hemorrhage was not more than usual. An hour afterwards, it was reported that the child was losing considerable blood. A post-nasal tampon was inserted; during the night a new hemorrhage developed followed by death. The boy was suffering from leucæmia of a lymphatic form.

Six months later, a boy applied to Burger to have the three tonsils removed. The pharyngeal tonsil was pale, and of a cyanotic appearance, with several hemorrhagic points. Cautioned by the above accident, he first had an examination of the blood made. Leucæmia was found pronounced (36 leucocytes to 400 chromocytes), and the child was placed in the medical clinic. Some weeks after, the child died and the autopsy confirmed the first diagnosis.

No reference has heretofore been made of death from leucæmia in the literature of adenoid vegetations. The cases of hemophilia are well enough known. As leucæmia does not always present well-marked signs, we should always be on guard, and consult the family physician. Unfortunately this method is not always practicable especially at the hospital.

The danger of fatal hemorrhage is very rare; with the exception of two or three cases of hemophilia, there are only three cases of fatal adenotomy reported. Burger made 2200 in the space of nine years without the least accident.

In regard to hemorrhages which are not fatal, but which caused anxiety, he reports 40. Among the causes are the following: Age (over 15 years), the operation done at a time when there was an inflammatory disease of the upper respiratory passage; the absence of insufficient rest after the operation; injury to the vomer, Eustachian cushion or the velum palati; the cutting of the anterior tubercle of the atlas, and especially one case of an incomplete operation where there were some loose pieces.

W. SCHEPPEGRELL.

Two Cases Delayed Secondary Hemorrhage following Amygdalectomy—RICHARD MCKINNEY, Memphis—*N. Y. Med. Journ.* Dec. 26, 1904.

Both cases were young male patients, seven and ten years of age. The bleeding occurred four days after a cutting operation upon the tonsils. Ice seemed to contract the hemorrhage, which appeared to be of an oozing character and venous. Monsels solution was also applied to the stumps of the bleeding tissue. In one of the patients there was considerable bleeding at the time of operation, as some difficulty was experienced in removing one of the tonsils with the MacKenzie instrument. Forceps and scissors were then employed.

M. D. L.

The Paroxysms of Whooping Cough Treatment by Pulling the Lower Jaw downward and forward. (Naegeli).—JACOB SOBEL.—*The American Practitioner & News*, Aug. 1903.

All cases of whooping cough presenting themselves at the Beth Israel Hospital Dispensary from June, 1901, to the present date were subjected to the treatment inaugurated by Naegeli. In all, ninety-six (96) cases were recorded, ranging in age from three months to eight years. No selection of cases was made, the children being taken as they came. All grades of severity and all stages were observed, those with and those without the whoop. Of these there resulted but nine failures (about 9 1-3 per cent), that is in which the method had absolutely no effect on the paroxysm at the time of the child's visit. In the remainder there never was a time when at one visit or the other, the paroxysm and the oncoming whoop were not controlled by pulling the lower jaw downwards and forwards. It is presumed that regularity of treatment at home might have brought success out of some failures. The method seemed less efficacious in infants and very young children than in older ones, though in some of the former it acted remarkably well. Naegeli first advocated this method in 1889, but it seems to have fallen to the wayside, as there are few mentions of it in medical literature. Naegeli reported that in two cases he succeeded more than five-hundred times in arresting the spasm. Naegeli believes that the whole therapy should be directed to the glottis spasm, and quotes Niemeyer as saying that "every paroxysm of cough is an irritant to the laryngeal mucous membrane; the more violent they become, the more quickly fresh mucous accumulates and the sooner another attack is to be expected. If we can diminish the severity of the attacks of cough the course of the disease will be shortened."

After a thorough application of this method N. modified it as follows, according as he grasped the lower jaw from (a) in front or (b) from behind.

(a) When in front of the patient he placed the index and middle fingers on the rami in front of the ear, the thumbs on the chin, and with a forcible but gentle pull and pressure he pushed the lower jaw downwards and forwards. If the mouth was opened and the tongue extended he placed the thumb and index fingers in the region of the canines, the remaining fingers on the body of the lower jaw, and thus pulled downwards and forwards. Very frequently he placed only the thumb or index finger back of the lower incisors, the remaining fingers of that hand under the chin, and then manipulated the lower jaw as before mentioned, keeping the other hand on the forehead for counter-pressure.

(b) When behind the patient he placed both thumbs against the angle of the jaw, the index finger on the zygomatic arch, the remaining fingers on the chin, and thus pushed downwards and forwards; or the index fingers were placed in the mouth behind the canines, and thus aided in the manipulation. When the lower jaw had been raised the patients were directed to take a deep breath. It is understood that this statement applies only to older children.

The author sums up the results of his own experience with Naegeli's maneuver for overcoming the spasm of the glottis in whooping-cough as follows:

1. Pulling the lower jaw downwards and forwards controls the paroxysms of whooping-cough in most instances and most of the time.

2. The method is usually more successful in older children than in younger ones and infants.

3. In cases without a whoop the expiratory spasm, with its asphyxia, is generally overcome, and in those with a whoop the latter is prevented.

4. As a single therapeutic measure for the control of the paroxysms it deserves a place in the treatment of pertussis, and is as successful as any single drug, or even more so.

5. Mothers, nurses and other attendants should be instructed in its use in order that the oncoming attacks, especially at night, might be arrested.

F. C. E.

Peritonsillar Abscess—E. B. GLEASON—*Internat. Med. Mag.*, Dec., 1903.

When a peritonsillar abscess is left to open by itself, the author thinks that it does so, almost invariably, by opening into the triangular space above the tonsil formed by the junction of the anterior and posterior pillars of the fauces. For this reason he thinks this is the point of frequent infection.

The application of a sixty grains to the ounce of water solution of nitrate of silver, the author says, will abort an attack of simple tonsillitis, diphtheritic tonsillitis and follicular tonsillitis. If an abscess forms then an incision is made into the tissue showing the greatest degree of fluctuation, which is usually on the anterior pillar or rather soft palate, immediately above the tonsil.

(In the experience of the reviewer, these abscesses, if left to spontaneous rupture, open usually on the anterior pillar or soft palate just opposite to the root of the uvula; and to prevent such an accident he invariably opens the abscess through the epitonsillar space.

STEIN.

Reflex Neuroses of Nasal Origin—L. RETHI—*Monatsschr. f. Ohrenh.* (Berlin), Jan., 1904.

The author reports three cases. In the first case, weakness of one leg followed within two hours after the nose had been tamponed after the removal of the middle turbinated, and disappeared as soon as it was removed. The second case vertigo and an unsteady gait followed the insertion of a tampon, and disappeared after its removal. The third case gave a similar history*. The author explains these cases by assuming that the tamponade of the nose causes an obstruction in the venous and lymphatic circulation in the brain.

*—In all these cases the symptoms persisted as long as the tampons remained in the nose, i. e., for 24 hours.

SIDNEY YANKAUER.

Serum Treatment of Hay Fever—A. LUBBERT AND C. PRAUSNITZ

—*Berl. klin. Wchnschr.*, March, 1904.

The authors review the results obtained last year with the hay-fever antitoxin of Dunbar.

They find that in all parts of the world hay-fever patients are sensitive to the Dunbar toxin, as obtained from the pollen of European grasses; that with few exceptions, all persons not subject to hay-fever are immune to the toxin. The only exception to this rule was found in the case of the sufferers from the "North American Autumnal Catarrh," a form of the disease caused by pollen of *Solidago*, *Ambrosia* and other late-flowering plants. But as these cases have been relieved by the Dunbar antitoxin, the authors conclude that the two forms of toxin are closely related.

Dunbar collected 285 cases. Of these 60% were cured, 29% were improved, and 11% were either not heard from or were not benefited.

In 24 cases the results were entirely negative. Some of these patients failed to use the serum in the manner prescribed; some failed to carry out the sanitary rules laid down; and in some the failure of the antitoxin was attributed to the fact that the mucous membrane was so extensively cicatrized by previous operations that absorption of the antitoxin was impossible. In 1.4% of the cases the cause of the failure could not be determined.

The 71 cases which were partially benefited are divided as follows:

1. Cases not heard from after a few doses of Pollantin had been administered.
2. Cases which obtained relief in their mild attacks and in attacks of moderate severity, but not in the severe attacks.
3. Cases which obtained relief from certain symptoms but not from others. In some cases the conjunctivitis was relieved but not the nasal symptoms; in others the conjunctival and nasal symptoms were relieved but the asthma was not affected by the antitoxin. Of 29 cases of asthma the result was negative in nine.

SIDNEY YANKAUER.

Opening the Maxillary Sinus through the Middle Meatus—

M. ONODI—*Ann. des mal. de l'oreille*—May, 1903.

Onodi believes in the efficacy of opening the maxillary sinus through the middle meatus. The anatomic conditions make the internal perforation of the sinus easier at this point. With this view he has constructed a dilating trocar which, after having perforated the wall, easily enlarges the opening to 2 cm. This opening is sufficiently large for irrigating and for tamponing the sinus. It is only necessary to make a few cuts with the forceps to remove the entire wall between the middle and inferior turbinals. This method has given him good results in five cases. In some instances, of course, we should resort to the radical operation.

W. SCHIEPPEGRELL.

What Shall We Do With the Stammerer?—G. HUDSON MAKUEN*—Internat. Med. Mag., Dec., 1903.*

The doctor's paper, might, most appropriately, have been titled, "What Not to do With the Stammerer." He sounds a note of warning against the methods employed by most of the institutions for the treatment of this affliction. Those having them in charge are usually people who have once been stammerers themselves, and have no idea of the complex problems presented by the stammerers. He charges their existence to be for revenue only; that they are inefficient and unscientific.

STEIN.

Clonic Spasm of the Muscles of Deglutition—H. KLIEN—*Deutsche med. Wchnschr.*, April 21, 1904.

The author reports two cases. In the first case the spasmodic movements involved the soft palate, the pharyngeal and laryngeal constrictors on the left side, and the left side of the diaphragm. There were also paresis of the left arm, and various other nervous phenomena. Contractions occurred at the rate of 160 to 190 a minute. In the second case the spasms involved the same muscles, but the symptoms seemed to be referable to disease of the medulla.

The author believes that a positive diagnosis can not always be made; some of the cases may be of hysterical origin, but in others the spasms are undoubtedly due to irritation of the swallowing center in the medulla oblongata.

SIDNEY YANKAUER.

The Action of the Crico-Thyroid and Thyro-Arytenoid Muscles, X-Ray Used—GEORGE MÜLLER AND JOHN FISHER—*Hospitalstidende*, No. 41, 1903.

By aid of the Roentgen ray photography the author demonstrated that during the contraction of the crico-thyroid, the thyroid cartilage remained immovable, while the cricoid cartilage moved upwards. During intonation the cricothyroid muscle straightens the vocal cord, but the stronger the contraction of the muscle, the more concave the edges of the vocal cords will be, and this concavity is not effaced until the thyro-arytenoideus is stimulated, when the line of the vocal lips becomes perfect.

GOTTLIEB KIAER.

The Treatment of Chronic Deafness by the Use of Superheated Air—G. W. HOPKINS—*Alkaloidal Clinic*, March, 1904.

The author treats this condition with a heat of 250 degrees to 400 degrees Fahrenheit, employing a gas compressed-air heater. He cautions against the presence of moisture, and to obviate this condition the ear canal under treatment must be clean and dry and packed with two thicknesses of dry gauze.

STEIN.

The Topography of the Temporal Bone—ALEXANDER IWANOFF—
Arch. f. Ohrenh., (Leipzig), Feb., 1904.

Iwanoff analyzed a number of temporal bones with a view to determining certain surgical landmarks.

I. The length of the base of the skull is the least variable factor in the topography of the skull and is in no wise dependent upon the cephalic index.

II. The petrous portion of the temporal bone has the form of a pyramid, which has been twisted upon its axis in such a manner that the posterior surface of the apex is turned toward the horizontal while the outer and lower part of the posterior surface (Sigmoid Fossa) is displaced forwards and upwards. The author believes that when the lateral sinus lies far forward in the mastoid, i. e., near the middle ear, this torsion of the petrous portion is the most marked.

III. The thickness of the roof of the tympanum is greater in the mesocephalic and dolichocephalic than in the brachiocephalic, and in general is greater on the left side than on the right.

IV. The sigmoid fossa, as its thinnest part, is thicker in the dolichocephalic than in the brachiocephalic, and in the latter the sinus is nearer to the middle ear.

V. Iwanoff has attempted to confirm Trautmann's observations upon certain landmarks supposed to indicate the position of the lateral sinus, but concludes that there is no absolute sign by which the position of the sinus can be determined, and repeats the advice of Randall, always to operate as though one expected the sinus to lie near the middle ear and near the surface of the mastoid.

VI. Remains of the squamo-mastoid suture.

VII. The pneumatic cells of the mastoid are more numerous and larger in the dolichocephalic; the brachiocephalic generally have dense mastoid.

VIII. The author found perforations or fissures in the roof of the tympanum in five out of 43 mesocephalic and brachiocephalic skulls, but none in 12 dolichocephalic skulls.

IX. In the dolichocephalic skull the external auditory canal is nearly round in cross-section, while in the brachiocephalic it is oval.

SIDNEY YANKAUER.

Osteomyelitis of the Ossicles—WALTER STEIN—*Arch. f. Ohrenh.*, 1904, No. 3.

The patient, female, aged 25, gives a typical history of hereditary syphilis. She also suffered from tinnitus on both sides; that on the left side yielded to anti-syphilitic treatment, but on the right side it persisted, so that the ossicles on that side were removed.

Macroscopically the ossicles appeared normal, but on microscopical examination it was found that the interior of both bones presented characteristic appearances of osteomyelitis. As no suppuration of the middle ear had existed, the case was regarded as a primary specific osteomyelitis of the ossicles.

SIDNEY YANKAUER.

The Etiology of Deafness and Mutism—SCHMIEGELOW—*Hospitalstidende*, No. 32, 1903.

In his paper, the author treats only the functional acoustic side of the question. Complete deafness, occurring before the eighth year of life results in mutism and varying degrees of deafness in children tend to produce degrees of mutism unless especial pedagogical measures are applied to prevent it. He suggests the *tone-trial* in all cases where the *language-trial* gives negative results.

GOTTLIEB KIAER.

Ulcerative External Otitis—A. BARTH—*Deutsche med. Wchnschr.*, April 21, 1904.

Under this term Barth classes certain forms of external otitis characterized by severe pain and tenderness, but only slight swelling. After a few days one or more superficial ulcerations form which secrete but little pus. They have less tendency to recur than ordinary furuncles.

SIDNEY YANKAUER.

Paracentesis of the Tympani Membrane—M. GUYE—*Revue Heb. de Laryngologie, D'Otologie et de Rhinologie*—Jan. 30, 1904.

Guye believes in early paracentesis, and he reports two cases which show the respective value of paracentesis made in time, and when made too late. He often uses the air douche as suggested by Bezold, and has never seen the least inconvenience result from it. Instead of the classic Politzer bag, however, which is a receptacle for dust and microbes, he makes use of a menthol insufflator, in which the air is first filtered by means of a plug of absorbent cotton.

W. SCHEPPEGRELL.

Note Relative to Artificial Drum—DR. HEYMAN, JR. (Warsaw)—*Presse oto-laryngol. Belge.*, Nov., 1903.

If both ears have suffered from suppuration, we should place the artificial drum on one side only, otherwise the suppuration will reappear. This is the experience of the author, which he learned by accident but cannot explain.

W. SCHEPPEGRELL.

Some Impressions of European Accessory-Sinus and Ear Work—W. E. FLEMING (Los Angeles)—*South. Calif. Practit.*, May, 1904.

An interesting and very instructive account of the clinical methods of Schwartz, Luc, Jensen, Politzer, Urbantschitsch, and Chiari. Some of the narrative goes with some detail into the technic, dressings and after treatment. It is well worthy of attentive reading.

EATON.

Ankylosis of the Malleo-incudal Articulation—HUGO FREY—
Arch. f. Ohrenh., 1904, No. 3.

The author reviews the literature of the subject (25 cases), and reports the microscopical findings in two cases from Politzer's clinic. Pathologically he distinguishes four varieties:

1. Periarticular cicatricial ankylosis.
2. Periarticular bony ankylosis.
3. Intra-articular bony ankylosis.
4. Combination forms.

The condition is invariably a sequel of chronic middle ear catarrh. Being thus associated with other severe disturbances in the middle ear, it is impossible to determine how much of the loss of hearing may be attributed to the ankylosis itself.

SIDNEY YANKAUER.

The Importance of Suppurative Otitis in the Consideration of Life Insurance—TREITEL—*Deutsche Med. Ztg.*, Berlin, Dec. 21 1903.

The author quotes numerous statistics on the mortality of suppurative otitis, and offers the following conclusions:

The physician for the Insurance company may accept, but with considerable risk, cured cases of otitis with cicatrization of the tympanum and even with perforation. In cases of persistent suppuration, however, the nature of the discharge is most important. A muco-purulent discharge may be accepted with much risk. A purulent discharge with fetor, cholesteatoma, granulation of the superior part of the tympanum should be refused. Deafness of both ears with attacks of vertigo, increase the risk, and should command an increase in the premium. In all cases, the physician for the Insurance company should ask the patient regarding this organ especially, and should examine the ear of all individuals who wish life insurance.

W. SCHEPPEGRELL.

Scarlatinal Panotitis: Exfoliation of a Portion of the Labyrinth; Radical Operation—CARL KOLLER, M. D.—*Med. Record*, Jan. 30, 1904.

Total deafness, following an attack of scarlet fever occurred in a female, four years old. Diphtheria complicated the cause of the disease. Both ears were suppurating and the cervical glands were swollen. Total deafness had set in, 24 hours after the ears had become involved. Dizziness existed for a short time. Denuded bone could be felt on the left side.

A radical operation was performed, extensive disease was found in the mastoid, and a sequestrum was removed which proved to be a portion of the labyrinth. The facial nerve was exposed for a considerable distance. The hearing, however, has not been improved by the operation, though suppuration has ceased.

The author calls attention to the serious nature of panotitis, and states that grave alterations in the middle ear may exist in a case of scarlatina, with comparatively small changes of the drum membrane.

M. D. L.

The Diagnosis of Thrombosis of the Lateral Sinus—W. SACHS—*Arch. f. Ohrenh.*, 1904, No. 3.

During the act of swallowing the muscles involved in this act, which are in relation to the internal jugular vein, compress the vein, and cause a stasis of the blood-current and dilatation of the lateral sinus. If, during an operation, the wall of the sinus has been exposed over an area of at least one square centimeter, and if the vessel be patent, this dilatation becomes noticeable as a fluctuation of the sinus wall in the form of two or three waves, of decreasing intensity. If the sinus be obstructed by a firm thrombus these waves are absent. They must not be confounded with waves caused by the auricular systole, or by expiration.

The author is unable to determine, without further clinical observation, whether the phenomenon is constant even when the sinus is healthy, and whether a soft and delicate thrombus would prevent the formation of the waves.

SIDNEY YANKAUER.

A Case of Temporo-Sphenoidal Abscess of Otitic Origin—A. J.BRADY—*The Austral. Med. Gaz.*—March 21, 1904.

The feature of interest in this case was that the pulse rate continued to be slow for a period of several weeks after the free evacuation of the abscess.

For the first week it varied from 44 to 54 per minute; during the second, from 52 to 60. After this it gradually rose until, during the fourth week, it was normal.

With the slow pulse were severe head pain, a restless irritable condition, and a normal temperature. Optic neuritis, partial aphasia and word deafness were also present. The author considers this case appears to show that intracranial conditions other than pressure may cause the pulse to be slow and points out that the persistence of a slow pulse after drainage of a cerebral abscess is not always an indication for further exploration.

H. RUSSELL NOLAN.

A Remarkable Anomaly of the Lachrymal Duct—MERCZELFALTA—*Monatsschr. f. Ohrenh.*, (Berlin), March, 1904.

In the case here reported, the lachrymal sound, instead of entering the duct in a nearly vertical direction, entered at an angle of 120 degrees. It emerged into the nose from the median surface of the lower turbinated bone until it reached the septum. The lachrymal duct, instead of entering the nose between the lower turbinate and the lateral wall, penetrated the lachrymal bone and passed through a tunnel under the mucous membrane covering the lower turbinated. The nasal extremity could not be seen until its position had been shown by the sound, and it was almost invisible when the sound was removed. The author calls attention to the importance to the rhinologist of the possibility of such an anomaly.

SIDNEY YANKAUER.

Aneurism of the Carotid Artery in the Tympanic Cavity—SCHULTE—*Monatsschr. f. Ohrenh.* (Berlin), March, 1904.

The patient, female, aged 26, had complained for six years of attacks of pain and suppuration in the left ear. Examination showed a thickened drum membrane, a retracted hammer-handle, a perforation as large as a pea in the anterior inferior quadrant, and a smooth, round, bluish tumor, bathed in pus, projecting from the perforation. There was no pulsation. It was regarded as a polypus and an unsuccessful attempt was made to engage it in a snare. It was then cauterized with chromic acid. Upon touching it with the caustic-carrier, it was felt to be yielding and apparently cystic. It was incised and blood immediately flowed from the ear in a powerful stream. The ear was packed with gauze, but the bleeding continued through the packing and from the Eustachian tube. The common carotid was tied, and hypodermic injections of gelatine administered; after six weeks the bleeding stopped. In spite of the fact that the ear was kept packed with gauze, in the presence of suppuration, for such a long time, no complications supervened.

SIDNEY YANKAUER.

Pathological Changes in the Internal Ear Caused by Poisoningwith Sodium Salicylate—ALBERT BLAU—*Arch. f. Ohrenh.*, No. 3, 1904.

The author made experiments upon rabbits, guinea-pigs and mice. He poisoned some of the animals with one large dose of salicylate of soda, and others with repeated small doses. He found hyperæmia and hemorrhages in the labyrinth, and changes in the ganglion cells in the cochlea and vestibule. Whether these latter changes were due to direct action of the poison, or were secondary to the disturbances in the circulation, he was unable to determine.

SIDNEY YANKAUER.

The Effect Upon the Singing Voice of a Diminution in the Size of the Resonating Air-Spaces—M. BUKOFZER—*Arch. f. Ohrenh.*, (Leipzig), Feb. 1904.

The experiment of Spiesz consists of occluding one of the nostrils during the production of a given note. The contraction of the respiratory passages so produced, by retarding the expiratory air-current, slows the vibration of the vocal cords. This phenomenon is more marked when the nostril not so occluded is narrowed by inflammatory enlargements.

Bukofzer reproduced the conditions artificially by having the subject, whose nostrils were both occluded, sing a given note through a system of Y-tubes having a wide and a narrow branch. When the wide branch was closed the pitch of the note fell from a semi-tone to a whole note. The rate of the vibrations was measured on a revolving cylinder. The author quotes a number of experiments by different observers in support of his theories.

SIDNEY YANKAUER.

Vincent's Angina and Chancre of the Tonsils—E. BOTELLA—

Bolet. de laringol., No. 17, Sept., Oct., 1903.

The author has had come under his observation, at the same time, a patient affected with Vincent's angina and one who had chancre of the tonsil. He compared the two cases, calls attention to the difficulty in differentiating between these two conditions, and makes the following conclusions: Vincent's angina is a perfectly definite entity, the specific agent of which is a fusiform bacillus frequently associated with the spirilla. The presence of the first in large quantities is of undoubtedly diagnostic value. The second, if found alone, is of little importance.

Chancre of the tonsils presents a lesion very much resembling in its clinical aspect, the Vincent's angina, but to be precise, we should resort to a microscopic examination, by the aid of which we can make a positive diagnosis. The microscopic examination serves not only to differentiate between these two diseases, but also to exclude diphtheritic angina, which may also be confused with Vincent's angina.

W. SCHEPPEGRELL.

The Eye, Ear, Nose and Throat Complications in Acute Infectious Diseases—DERRICK T. VAIL—

The Cincinnati Lancet, Clinic, Jan., 1904.

The author presents a very comprehensive summary of the various signs and symptoms encountered in eye, ear, nose and throat disturbances complicating such acute infectious diseases as measles, scarlet fever, diphtheria, whooping cough, mumps and influenza.

STEIN.

Experiments in Diphtheritic Rhinitis—DR. DÉ STELLA—

Presse oto-laryngol. Belge, Nov., 1903.

After numerous experiments on Guinea pigs, the author submits the following conclusions:

Of all the mucous membranes, the nasal offers the most resistance to the inoculation with the bacilli of Loeffler. Sometimes the pharynx is involved with symptoms of general infection; ordinarily the infection is local. In diphtheritic rhinitis the organism secretes an antitoxine which also neutralizes the diphtheritic toxin to the point of immunization.

W. SCHEPPEGRELL.

A Leech in the Trachea, Report of Two Cases—M. TSAKYROG-

Monatsschr. f. Ohrenh. (Berlin), Feb., 1904.

The author had removed leeches from the nose, pharynx, and even from the larynx, but these cases were the first in which he had found a leech in the trachea. In one case the leech had been in the trachea for six days; in the other, for nine days. They were removed with the forceps, after thorough cocainization. He states that the cocaine benumbs the leech at once.

SIDNEY YANKAUER.

A Case of Fatal Spasmodic Croup in a Previously Healthy Child—JAMES F. HEADY—*The Cincinnati Lancet-Clinic*, Nov., 1903.

The report of this case is most interesting and instructive; first, on account of the very rare fatal termination of such cases, and secondly, because it is commonly believed that such an ending never occurs.

The author's patient was 5 years old, and up to within 6 hours of his death was well and healthy. He awoke at 10 p. m., with a violent attack of dyspnea. At 12 p. m., he had another attack but was not relieved by any treatment. At 1 a. m., when the doctor arrived, he found him in collapse and probably dead. Intubation, stimulants, artificial respiration, all, proved of no avail.

The author believes that death was caused from an impaction of the epiglottis into the chink of the glottis, for he found the epiglottis so on intubating.

STEIN.

Chronic Diphtheria—LUDWIG NEUFELD—*Deutsche med. Wchnschr.*, May 12, 1904.

The author distinguishes two classes of cases:

I. Prolonged diphtheria. In these cases a membrane persists or recurs at frequent intervals after the acute symptoms have subsided.

II. Cases which run a chronic course from the start. Among these he distinguishes between

A. Pseudomembranous, in which the pseudodiphtheria bacilli are found, and

B. Ulcerative, in which the disease manifests itself from the start in the form of ulcerations in the nose, pharynx and naso-pharynx. A membrane never appears in these cases, and the diagnosis is made by bacterial examination. In the case here reported, an ulcer of the pharynx and naso-pharynx followed a mild angina, and pure cultures of Loeffler's bacilli were found. The ulcers took six months to heal.

SIDNEY YANKAUER.

Laryngeal Complications in Typhoid Fever—Report of a Case, etc.—HOMER DUPUY, New Orleans—*N. Y. Med. Journ.*—Dec. 26, 1903.

Marked dyspnea, inspiratory stridor, aphonia and tracheal tugging occurred about the fourth week in a female patient, aged 20 years, suffering from typhoid fever. The laryngeal examination revealed diffused and symmetrical tumefaction over the entire surface of the larynx, the vocal cords being fixed in the median line and separated during inspiration only near the posterior edges.

Sol. Adrenalin (1-1000) was used locally in the form of a spray. This resulted in relief for the time, after being employed hourly. For twelve hours marked benefit was obtained from this local application and internal administration of fifteen drops of the same so-

lution hourly. Dyspnoea again set in, and a high tracheotomy under local anesthesia was performed as ankylosis of the cricoarytenoid joints no doubt existed. A few hours after the operation, profuse bleeding from the wound caused the patient to breathe with difficulty, so two doses of fifteen drops of the adrenalin solution were given hypodermically in the space of fifteen minutes. This seemed to promptly check the hemorrhage. An attack of heart failure nearly resulted fatally, but hypodermic medication brought the necessary stimulation and the patient recovered. The author has gone into the pathology of these serious complications, and the paper is a valuable addition to the literature upon the subject.

M. D. L.

The Operative Treatment of Laryngeal Carcinoma—HANS

KOSCHIER—*Wien. klin. Wchnschr.*, May 5 and 12, 1904.

After reviewing the various operations for cancer of the larynx, Koschier describes a method of packing the wound which prevents mucus and wound-secretions from entering the trachea and causing aspiration pneumonia.

A sheet of iodoform gauze is laid over the wound. A pouch of this gauze is then formed in the tracheal opening, and a similar one in the pharyngeal opening of the wound. A bag of gauze is thus made which is adjusted nicely to the entire wound surface and filled tightly with strips of gauze. The patient is fed by rectum for three days, until the packing becomes firmly adherent to the granulations, when he is fed by mouth until the packing becomes saturated with fluids. This takes about six days, after which the packing is replaced in the same manner, the patient again fed by rectum, etc., and the same procedures repeated until healing takes place.

SIDNEY YANKAUER.

The Pathology of Congenital Deafness—G. ALEXANDER—*Arch.*

f. Ohrenh., No. 3, 1904.

The author has examined the internal ear of a congenital deaf mute, and sums up the pathological changes as follows:

1. Atrophy of the trunk of the auditory nerve and of all its branches on both sides.
2. Atrophy of all the ganglia of both nerves.
3. These changes are more marked in the cochlea than in the rest of the labyrinth.
4. Atrophy of the nerve-endings in the saccule, utricle and semi-circular canals, and a diminution in the size of the end-organs.
5. Atrophy of the organ of Corti.
6. Areas of atrophy and degeneration in the ligamentum spirale, stria vascularis, crista spiralis and the membrane of Corti.
7. Malformation of the middle turn and apex of the cochlea, and of the ganglia of the cochlea.
8. Arrest of development of the bone surrounding the cochlea, of the lamina spiralis and modiolus; defects of the bony septa between the turns of the cochlea; diminution in the size and number of the blood-vessels, and in the amount of pigment, in the entire labyrinth.

SIDNEY YANKAUER.

The Relation Between Leucoplakia and Syphilis—W. LUBLINSKI

—*Deutsche med. Wchnschr.*, May 19, 1904.

Leucoplakia is not a disease sui generis, but is the result of the continued action of an irritant upon the mucous membrane. The author includes the excessive use of alcohol and tobacco among such irritants.

Syphilis renders the mucous membranes sensitive, and hence predisposes to leucoplakia. Although the latter is not itself of syphilitic origin, it is apt to occur upon areas where there has been a syphilitic eruption.

SIDNEY YANKAUER.

Infection of the Parotid Gland.—W. A. BRYAN, (Nashville,

Tenn.)—*Virginia Med. Semi-Monthly*, July, 1903.

After a thorough consideration of the relational anatomy of the parotid gland, the author discusses abscess of the organ, the first class of causes of which is the entrance of pyogenic organisms into the gland from other infected regions of the body. This condition may be accomplished by extension of contiguity, and extension through the lymphatics from infection in the deep temporal and maxillary regions.

The second class of causes is that of constitutional diseases, which during or after that period of highest activity, are complicated with parotitis, sometimes suppurative, sometimes not. The diseases belonging to this category are typhoid, typhus and scarlet fever, smallpox, measles, secondary syphilis and puerperal fever. Mercurial and lead poisoning, mumps, chronic nephritis and secondary syphilis are rarely followed by chronic enlargement of the glands and tenderness of these glands, usually on one side only.

The third class of causes includes general peritonitis and intra-peritoneal operations, in which no infection seems to have occurred at the site of the operation. The rule is that infection attacks only one parotid gland, though there are exceptions, when the cause is of a systemic nature. The diagnosis of abscess is based upon those symptoms resulting from parotid enlargement, and the history, both of the development of the growth, and the circumstances under which this development has taken place.

The treatment is to enter the structure cautiously by Hilton's method, and then treat as an ordinary abscess. Unless this is done, the pus will burrough, causing more sepsis and a wider field of culture. The course taken by the pus varies. Frequently it escapes into the middle ear and out at the external meatus. This occurs either through the Glaserian fissure or by the opening through the vaginal process of the temporal bone. In either case the suppurative parotitis becomes complicated by infection of the middle ear. Pus may also escape by a rupture of the sheath into the tissues of the neck or into the temporal region, above the zygomatic arch. A possible termination is gangrene of the whole substance.

BIBLIOGRAPHY.

It is our purpose to furnish in this Department a complete and reliable record of the world's current literature of Rhinology, Laryngology and Otology.

All papers marked (*) will be published in abstract in THE LARYNGOSCOPE.

Authors noting an omission of their papers will confer a favor by informing the Editor.

I. NOSE AND NASO-PHARYNX.

COHN, FELIX* (New York). The Submucous Resection of the Nasal Septum. *Med. Record*. December 26, 1903.

PILSBURY, L. B. (Lincoln, Neb.). Rhinoplasty by the Indian Method. Report of a case. *West. Med. Rev.* May, 1904.

BURGER, M.* Fatal Hemorrhage Following Adenotomy. *Revue Heb. de Lar. D'Otol. Rhinologie*. January 30, 1904.

II. MOUTH AND PHARYNX.

ZUCKERKANDL, E.* The Presence of Cartilage in the Pharyngeal Tonsil. *Monatsschr. f. Ohrenh.* (Berlin). February, 1904.

BEZDEK, H.* A Case of Tonsilla Pendula. *Wien. klin. Wchnschr.* May 5, 1904.

BOTTELLA, E.* Vincent's Angina and Chancre of the Tonsil. *Bolet. de laringol.*, No. 17. September, October, 1903.

III. ACCESSORY SINUSES.

FLEMING, E. W.* (Los Angeles). Some Impressions of European Accessory-Sinus and Ear Work. *South. Calif. Pract.* May, 1904.

IV. LARYNX AND TRACHEA.

TSAKYROGLOUS, M.* A Leech in the Trachea. Report of two Cases. *Monatsschr. f. Ohrenh.* (Berlin). February, 1904.

KOSCHIER, HANS.* The Operative Treatment of Laryngeal Carcinoma. *Wien. klin. Wchnschr.* May 5-12, 1904.

URBAN, ADOLPH H., B. S. M. D. "Bilateral Abductor Paralysis of the Larynx." *Buffalo Med. Journ.* November, 1903.

SAWKINS, F. J. T.* (Sydney). An Unusual Case of Laryngeal Obstruction. *Australas. Med. Gaz.* March 21, 1904.

V. DIPHTHERIA, THYROID GLAND AND ESOPHAGUS.

NEUFELD, LUDWIG.* Chronic Diphtheria. *Deutsche Med. Wchnschr.* (Leipzig). May 12, 1904.

VI. EAR.

- HEYMANN, JR., DR.* (Warsaw). Note Relative to Artificial Drum. *Presse oto-laryngol.* (Belge). November, 1903.
- DE STELLA, DR.* Experiments in Diphtheritic Rhinitis. *Presse oto-laryngol. Belge.* November, 1903.
- VEIS, JULIUS.* The Prevention of Middle Ear Catarrh. *Monatsschr. f. Ohrenh.* February, 1904.
- CHORONSHITZSKY, B.* Bullet Wound of the External Auditory Canal. *Monatsschr. f. Ohrenh.* (Berlin). January, 1904.
- SCHULTE.* Aneurism of the Carotid Artery in the Tympanic Cavity. *Monatsschr. f. Ohrenh.* (Berlin). March, 1904.
- BÖHM, WILLY.* Rupture of the Drum Membrane through Indirect Violence. *Monatsschr. f. Ohrenh.* (Berlin). March, 1904.
- HALASZ, HEINRICH.* The Removal of a Foreign Body from the Ear by means of Peroxide of Hydrogen. *Arch. f. Ohrenh.* (Leipzig). February, 1904.
- OSTMANN.* Clinical Studies in Deafness. Part II. Analysis of Deafness Caused by Impacted Cerumen. *Arch. f. Ohrenh.* (Leipzig). February, 1904.
- BARTH, A.* Ulcerative External Otitis. *Deutsche Med. Wchnschr.* (Leipzig). April 21, 1904.
- STEIN, WALTHER.* Osteomyelitis of the Ossicles. *Arch. f. Ohrenh.* (Leipzig). No. 3, 1904.
- BIRKETT, HERBERT S. Otomycosis due to the Aspergillus Glaucus. *Montreal Med. Journ.* May, 1904.
- ALEXANDER, G.* The Pathology of Congenital Deafness. *Arch. f. Ohrenh.* (Leipzig). No. 3, 1904.
- BLAU, ALBERT.* Pathological Changes in the Internal Ear Caused by Poisoning with Sodium Salicylate. *Arch. f. Ohrenh.* (Leipzig). No. 3, 1904.
- FREY, HUGO.* Ankylosis of the Malleo-incudal Articulation. *Arch. f. Ohrenh.* (Leipzig). No. 3, 1904.

VII. MASTOID AND CEREBRAL COMPLICATIONS.

- *The Diagnosis of Trombosis of the Lateral Sinus. *Arch. f. Ohrenh.* (Leipzig). No. 3, 1904.
- BRADY, A. J. (Brisbane). Case of Temporo-Sphenoidal Abscess of Otitic Origin. *Australas. Med. Gaz.* March 21, 1904.
- PUTNAM, W. G. Further Notes on Mastoiditis. *Maritime Med. News.* January, 1904.
- GRIMMER, G. K. Acute Mastoiditis from Streptococcus Infection with Report of Two Cases. *Montreal Med. Journ.* March, 1904.

IX. NEW INSTRUMENTS.

- GLATZEL.* A Device for Determining the Patency of the Nostrils. *Monatsschr. f. Ohrenh.* (Berlin). January, 1904.
- CORDES, H.* A Pair of Pharyngeal Scissors. *Monatsschr. f. Ohrenh.* (Berlin). February, 1904.
- LITWINOWICZ, O.* A Lingual Tonsillotome. *Monatsschr. f. Ohrenh.* (Berlin). March, 1904.

X. MISCELLANEOUS.

- ELLIOTT, J. H. Baltimore Tuberculosis Exposition. *Canadian Journ. of Med. and Surg.* April, 1904.
- TREITEL,* (Berlin). The Importance of Suppurative Otitis in the Consideration of Life Insurance. *Deutsche Med. Ztg.* (Berlin). Dec. 21, 1903.
- MONTGOMERY, DOUGLAS W. Treatment of Epithelioma with X-ray. *Canadian Practit. and Rev.* April, 1904.
- RETHI, L.* Reflex Neuroses of Nasal Origin. *Monatsschr. f. Ohrenh.* (Berlin). January, 1904.
- ZUCKERKANDL, E.* The Eustachian Tube of the Ant-eater. *Monatsschr. f. Ohrenh.* (Berlin). January, 1904.
- FALTA, MARCEL.* A Remarkable Anomaly of the Lachrymal Duct. *Monatsschr. f. Ohrenh.* (Berlin). March, 1904.
- IWANOFF, ALEXANDER.* The Topography of the Temporal Bone. *Arch. f. Ohrenh.* (Leipzig). February, 1904.
- BOKOFZER, M.* The Effect Upon the Singing Voice of a Diminution in the Size of the Resonating Air Spaces. *Arch. f. Ohrenh.* February, 1904.
- SOMERS, S. LEWIS (Philadelphia). The Serum Treatment of Hay Fever. *St. Louis Med. and Surg. Journ.* May, 1904.
- LUBLINSKI, W.* The Relation between Leucoplakia and Syphilis. *Deutsche Med. Wchnschr.* (Leipzig). May 19, 1904.
- KLIEN, H.* Clonic Spasm of the Muscles of Deglutition. *Deutsche Med. Wchnschr.* (Leipzig). April 21, 1904.
- ELLIOTT, J. H. The Literature of Tuberculosis at the Tuberculosis Exposition in Baltimore. *Dominion Med. Monthly.* April, 1904.
- THOMAS, FRANK W. (Pomona, Cal.) The Relationship of Diseases of the Bronchi and Lungs to those of the Nose and Throat. *South. Calif. Pract.* March, 1904.
-

BOOK REVIEWS.

Diseases of the Nose and Throat. By D. BRADEN KYLE, M. D., Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia; Consulting Laryngologist, Rhinologist and Otologist St. Agnes' Hospital. Third Edition, Thoroughly Revised and Enlarged. Octavo volume of 669 pages, with 175 illustrations, and 6 chromo-lithographic plates. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Cloth, \$4.00 net; Sheep or Half Morocco, \$5.00 net.

In presenting to the profession the third edition of this work the general plan of the previous editions has not been materially altered. The entire book has been carefully revised and such additions have been made as were rendered necessary by recent medical progress.

The most important alterations and additions have been made in the chapters on Keratosis, Epidemic Influenza, Gersuny's Paraffine Method for the correction of Nasal Deformities, and in the one on the X-Rays in the treatment of Carcinoma.

The etiology and treatment of Hay Fever have been partially rewritten and much enlarged, as has also the operative treatment of Deformities of the Nasal Septum. In the chapter devoted to general considerations of Mucous Membranes and Hay Fever the author records the results of his experience in the chemistry of the saliva and nasal secretions in relation to diagnosis and treatment.

The literature has been carefully reviewed, and a number of new illustrations added, thus bringing the work absolutely down to date.

In previous editions we have unqualifiedly endorsed this work as one of the best of modern text-books on diseases of the nose and throat, and the present edition simply emphasizes this opinion.

Progressive Medicine, Vol. II, June, 1904. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 334 pages, 47 illustrations. Per annum, in four cloth-bound volumes, \$9.00; in paper binding, \$6.00, carriage paid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

Of the main sub-divisions of this volume, the one that is of more than usual interest to our readers is the chapter on Ophthalmology, by DR. EDWARD JACKSON. The bacteriology of the conjunctiva, trachmo and tuberculosis of the conjunctiva, are treated in the first chapter; corneal ulcer and abscess, opacities of the cornea and interstitial keratitis follow. Diseases of the uveal tract and sympathetic diseases receive attention; then follow the various forms of retinitis and several recently reported cases of retrobulbar optic neuritis, and the recent literature concerning cataract and the results of extraction of same. This chapter is mainly devoted to comments on recently reported cases.

M. A. G.

Asthma in its Relation to the Nose. By ALEXANDER FRANCIS, M. B., B. C. Cantab. Publishers, Adlard & Son, Bartholomew Close, London, England.

This well-prepared monograph is an excellent contribution to the literature of asthma in its relation to nasal affections.

The author presents clinical data in four hundred and two cases, and his conclusions from this series strengthen previous observations as to the definite relationship of the etiology and pathology of asthma and the nose.

In many of these cases it is pointed out that polypi and other lesions of the nasal cavities have proven to be the exciting cause of the concomitant asthma, and that complete relief or great improvement in these cases has followed the removal of such nasal obstructions.

Another group of cases in which spurs and thickening of the septal mucosa have been found, the asthmatic feature has been eliminated or ameliorated by cauterization of the septum and removal of spurs and crests when such have been found irritating to an opposing turbinated body.

The author offers a revised classification of asthma, based on the clinical features and data gathered in this large series of cases.

M. A. G.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By PROF. DR. CARL VON NOORDEN, Senior Physician to the City Hospital in Frankfurt, a. M. Authorized American Edition Translated under the direction of Boardman Reed, M. D., of Philadelphia. E. B. Treat & Co., New York, publishers.

This monograph sets forth the von Noorden principles of reduction cures in obesity.

Cleft-Palate and Hare-Lip. The Earlier Operation on the Palate. By EDMUND OWEN, M. B., F. R. C. S., Consulting Surgeon, St. Mary's Hospital; Hospital for Children, Great Ormond Street, etc., pp. 111, with 39 illustrations. Price 2s. 6d. net. Bailliere. Tindall & Cox, Publishers, London.

In this monograph, the author presents his personal experiences in this operative field, and especially emphasizes the various difficulties associated with the procedure, and how these difficulties may best be overcome. The author urges the early operation on cleft-palate, and cites the period for operation at between the age of two weeks and three months. Much prominence is given the extensive experience and excellent work of Dr. Truman W. Brophy, of Chicago, and this earlier operation on the palate is graphically described.

The later operation for cleft-palate is also given consideration, and an important chapter on the after treatment of the operation is presented.

The concluding chapter succinctly considers operation for hare-lip, the most favorable time for operation, the technique and its modifications, and the proper dressings. An illustrated appendix of the instruments used in operations for cleft-palate is added. An excellent, practical monograph.

M. A. G.

SPECIAL NOTICE.

THE LARYNGOLOGICAL SOCIETY OF LONDON.

20 HANOVER SQUARE, LONDON, W. May 6, 1904.

To the Editor of THE LARYNGOSCOPE.

Dear Sir:—The enclosed proposal is being submitted to all the existing Laryngological Societies.

The Laryngological Society of London would be grateful if you would publish it in your esteemed Journal at the earliest possible date, and if you would also consent to accept contributions from those of your readers who may not be members of Laryngological Societies, with the view of ultimately transmitting them to our Honorary Treasurer, Mr. W. R. H. Stewart, 42 Devonshire Street, Portland Place, London, W.

We are, dear sir, yours truly,

E. FURNISS POTTER, M. D.

PHILIP DE SANTI, F. R. C. S.

Honorary Secretaries.

THE LARYNGOLOGICAL SOCIETY OF LONDON.

20 HANOVER SQUARE, LONDON, W., May 6, 1904.

To the President.

Sir: We are directed by the Council of the Laryngological Society of London to invite the attention of your Society to the fact that Senor Manuel Garcia—the inventor of the laryngoscope—will attain (D. V.) his 100th birthday on the 17th of March, 1905.

The Council also beg to point out that 1905 will be the jubilee year of the Laryngoscope, Senor Garcia's paper on the subject read before the Royal Society, having been published in 1855. It is proposed to celebrate the Centenary 1st, by presenting Senor Garcia with his portrait, to be painted by Mr. John Sargent, R. A., and 2nd, by a festival dinner. The Laryngological Society of London will also present Senor Garcia with an illuminated address, and have no doubt that other Laryngological Societies will do the same.

It will give the Laryngological Society of London much pleasure if the members of your society will join them in the celebration, by giving subscriptions toward the presentation and by gracing the occasion, and dinner, by their presence. It is the hope of the Laryngological Society of London that many foreign Laryngological Societies will be represented by deputies and in the event of this hope being realized, it is their intention to hold a special meeting on that occasion.

We shall, therefore, esteem it a favor if you will be good enough to make known the proposal to your Society, and shall be glad if you will kindly submit to us at an early date the names of such members as may signify their intention to be present, in order that the necessary arrangements may be made. It will perhaps be most practical if your Society will take in hand the collection of subscriptions within your radius of activity, and will send the amount after completion, to our Treasurer, Mr. W. R. H. Stewart, 42 Devonshire Street, Portland Place, London, W.

It has been decided not to limit the individual subscriptions. The names of the subscribers only—not the amount of the subscriptions—will be stated in the list which is to accompany the presentation portrait, as it is felt that it will be desirable that practically every laryngologist in the world should contribute by a subscription, however limited, toward a testimonial to be presented to the venerable inventor of the laryngoscope on this truly unique occasion.

Hoping to hear from you at an early date that our proposal has been favorably received by your society.

We have the honor to be, Sir, your obedient servants,

E. FURNISS POTTER, M. D.

PHILIP DE SANTI, F. R. C. S.

Honorary Secretaries.

The editor of THE LARYNGOSCOPE most cheerfully consents to accept for the committee contributions from readers of this journal not affiliated with Laryngological Societies. All such communications should be forwarded to the editor, 3858 Westminster Place, St. Louis. We hope our American laryngologists will show their interest in this remarkable event.

